

KPPD BASE-LINE
2nd HALF, 1994



Institute of Paper Science and Technology

CONTINUOUS BASE-LINE STUDY
(MULTI-WALL BAG PAPER DATA FOR JUL-AUG, SEP-OCT, NOV-DEC 1994)

Project 3710

A Progress Report

to

THE KRAFT AND PACKAGING PAPERS DIVISION

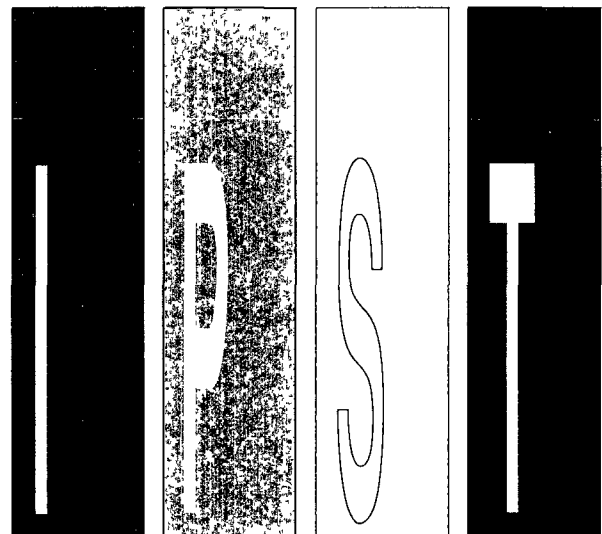
OF THE

AMERICAN FOREST AND PAPER ASSOCIATION

Project 3710

Report Nine

March 1, 1995



Atlanta, Georgia

INSTITUTE OF PAPER SCIENCE AND TECHNOLOGY PURPOSE AND MISSION STATEMENT

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- to provide high quality students with a multidisciplinary graduate educational experience which is of the highest standard of excellence recognized by the national academic community and which enables them to perform to their maximum potential in a society with a technological base; and
- to sustain an international position of leadership in dynamic scientific research which is participated in by both students and faculty and which is focused on areas of significance to the pulp and paper industry; and
- to contribute to the economic and technical well-being of the nation through innovative educational, informational, and technical services.

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THE INSTITUTE OF PAPER SCIENCE AND TECHNOLOGY

Atlanta, Georgia

CONTINUOUS BASE-LINE STUDY
(MULTI-WALL BAG PAPER DATA FOR JUL-AUG, SEP-OCT, NOV-DEC 1994)

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A Progress Report

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THE KRAFT AND PACKAGING PAPERS DIVISION

OF THE

AMERICAN FOREST AND PAPER ASSOCIATION

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March 1, 1995

Kraft and Packaging Papers Division
For Periods Jul-Aug, Sep-Oct, Nov-Dec 1994

SUMMARY

Flat
Moist @ reel
Percent

		JUL-AUG	SEP-OCT	NOV-DEC
40	Max	7.0	6.5	6.8
	Min	4.8	4.6	4.4
	Avg	5.7 (9)	5.6 (10)	5.7 (10)
	Stddev	.7	.7	.7
50	Max	6.8	6.6	6.6
	Min	4.5	5.0	4.8
	Avg	5.7 (13)	5.7 (13)	5.7 (15)
	Stddev	.7	.6	.6
60	Max	6.8	7.1	7.0
	Min	4.8	4.8	4.7
	Avg	5.9 (11)	5.8 (14)	5.9 (12)
	Stddev	.6	.7	.7

Note: Stddev is Standard Deviation of current machine averages.
Avg is Current KPPD average.
Number of machines is indicated in ().

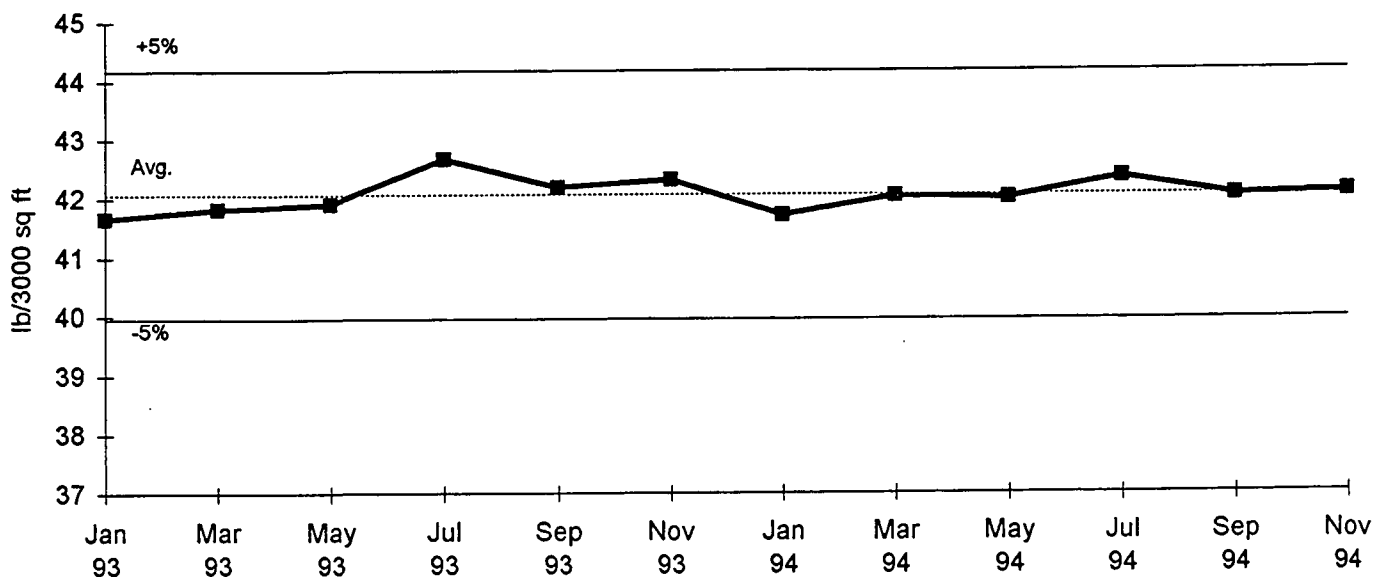
Kraft and Packaging Papers Division
For Periods Jul-Aug, Sep-Oct, Nov-Dec 1994

SUMMARY

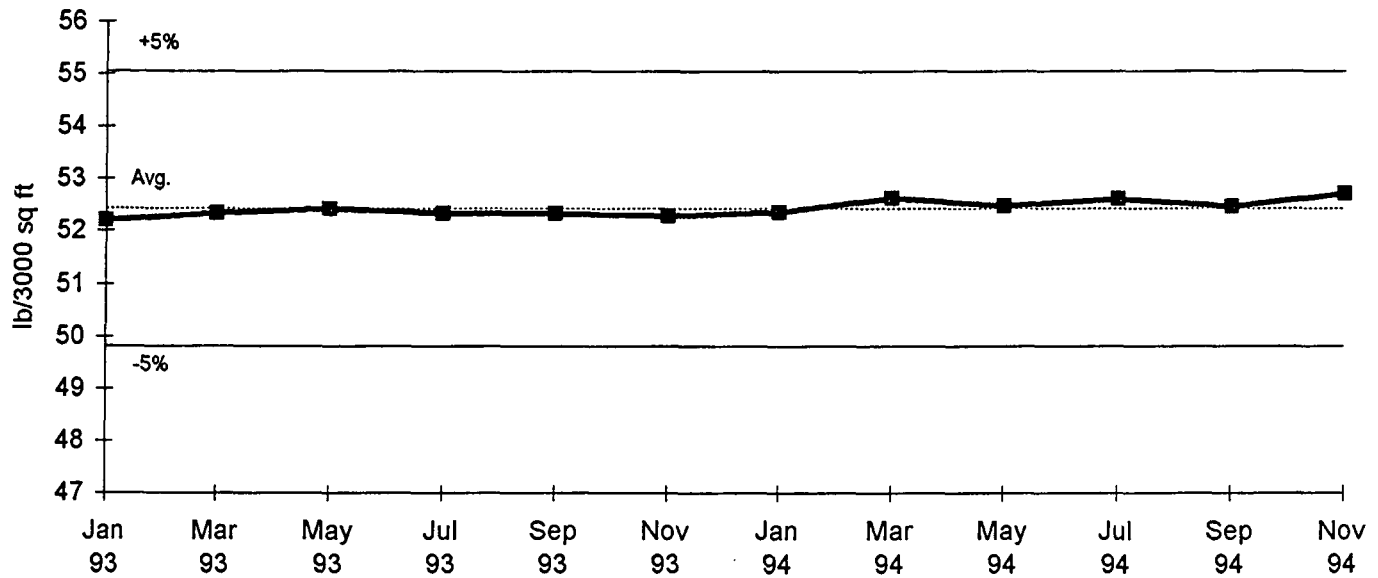
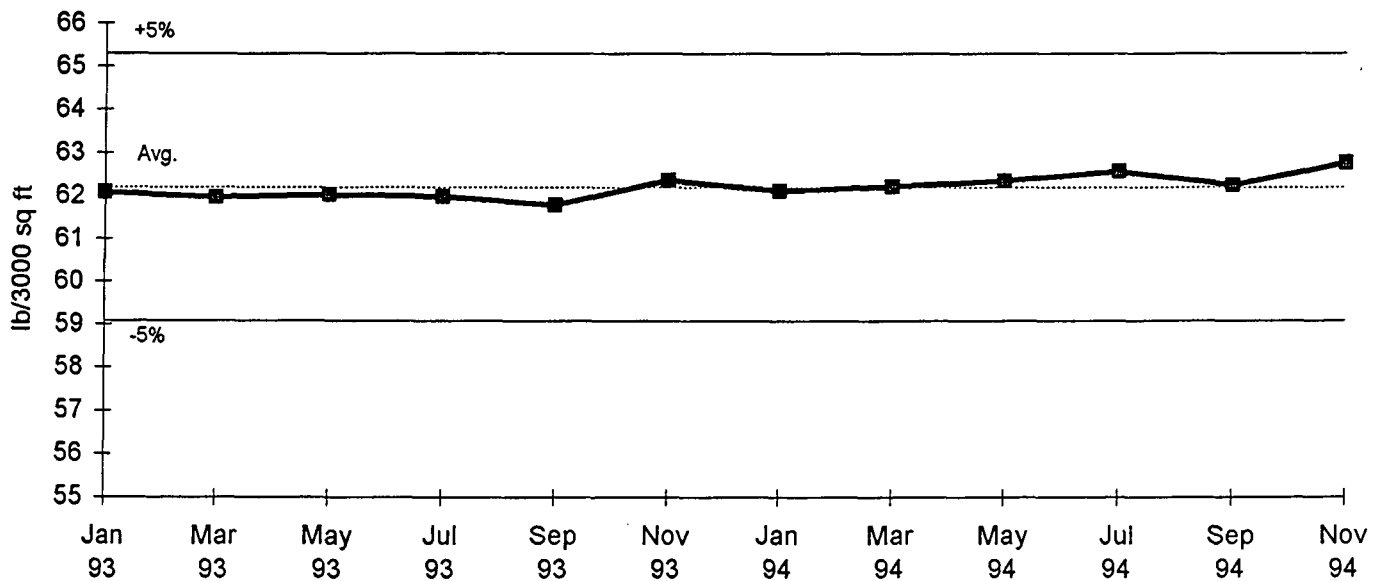
Flat
Adjusted Basis Weight *A
Lbs/M Sq Ft

		JUL-AUG	SEP-OCT	NOV-DEC
40	Max	44.9	44.5	44.5
	Min	40.3	40.7	40.8
	Avg	42.4 (9)	42.0 (10)	42.1 (10)
	Stddev	1.4	1.1	1.1
50	Max	54.2	54.6	55.9
	Min	50.9	50.9	50.9
	Avg	52.6 (13)	52.5 (13)	52.7 (15)
	Stddev	1.1	1.3	1.5
60	Max	64.0	64.2	65.5
	Min	60.7	60.6	60.5
	Avg	62.6 (11)	62.2 (14)	62.8 (12)
	Stddev	1.2	1.2	1.5

40# Flat Adjusted Basis Weight *A



Note: Stddev is Standard Deviation of current machine averages.
Avg is Current KPPD average.
Number of machines is indicated in ().
Note A is given in the appendix

50# Flat Adjusted Basis Weight *A**60# Flat Adjusted Basis Weight *A**

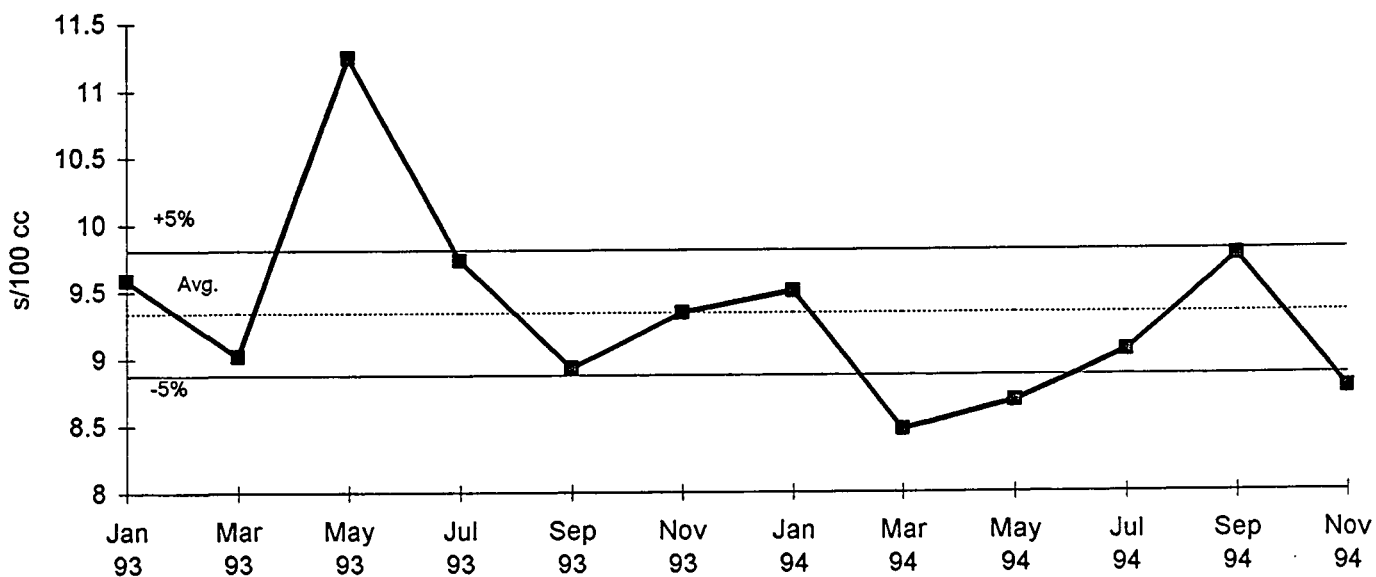
Note A is given in the appendix

Kraft and Packaging Papers Division
For Periods Jul-Aug, Sep-Oct, Nov-Dec 1994

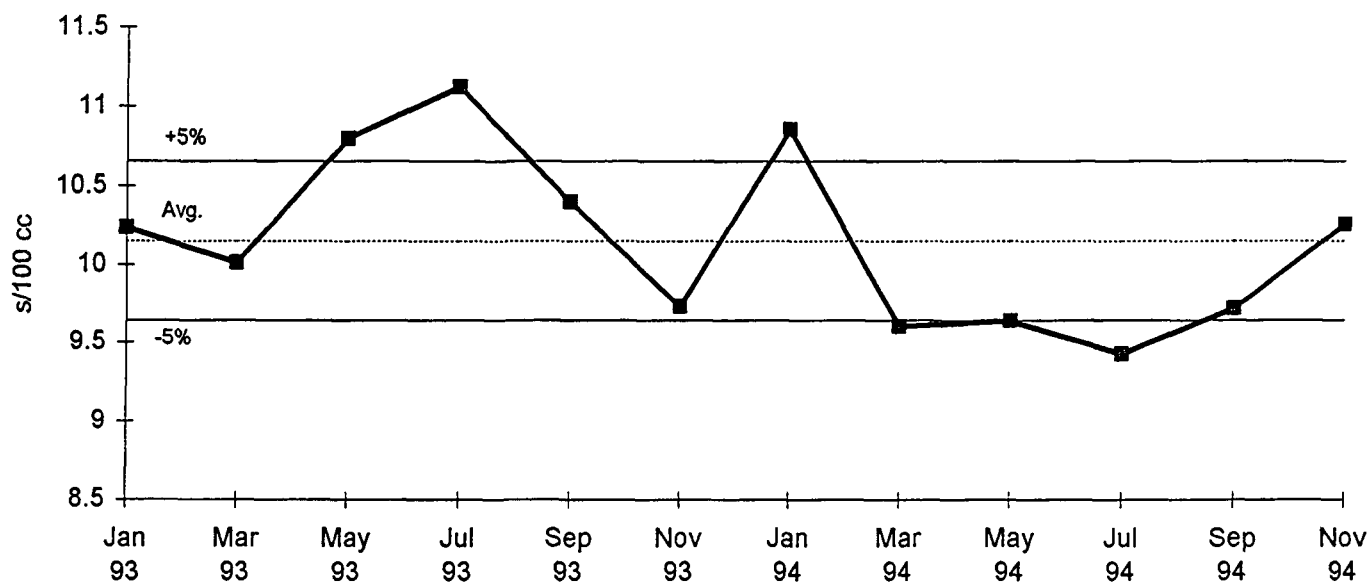
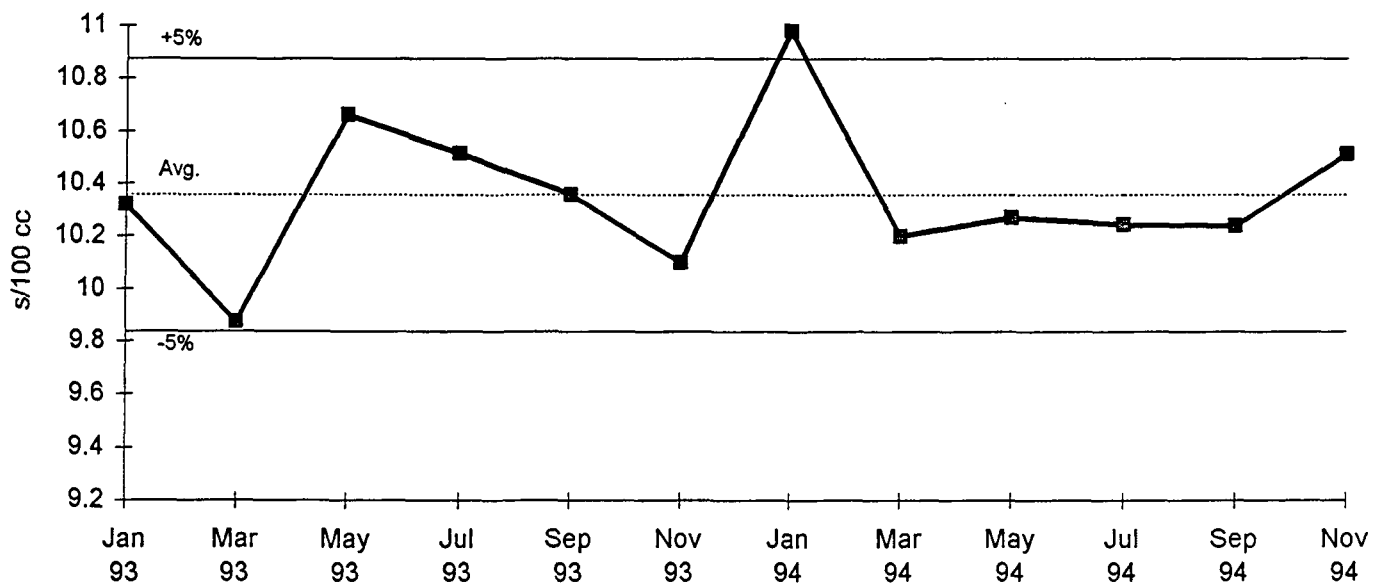
SUMMARY

		Flat Porosity s/100 cc		
		JUL-AUG	SEP-OCT	NOV-DEC
40	Max	14.0	15.2	15.0
	Min	3.5	5.5	2.5
	Avg	9.1 (9)	9.8 (10)	8.8 (10)
	Stddev	3.8	3.7	4.0
50	Max	16.0	15.7	22.2
	Min	4.5	4.5	4.0
	Avg	9.4 (13)	9.7 (13)	10.3 (15)
	Stddev	3.8	3.7	5.2
60	Max	15.0	15.5	19.3
	Min	6.0	4.5	5.5
	Avg	10.2 (11)	10.2 (14)	10.5 (12)
	Stddev	3.0	3.4	4.3

40# Flat Porosity



Note: Stddev is Standard Deviation of current machine averages.
Avg is Current KPPD average.
Number of machines is indicated in ().

50# Flat Porosity**60# Flat Porosity**

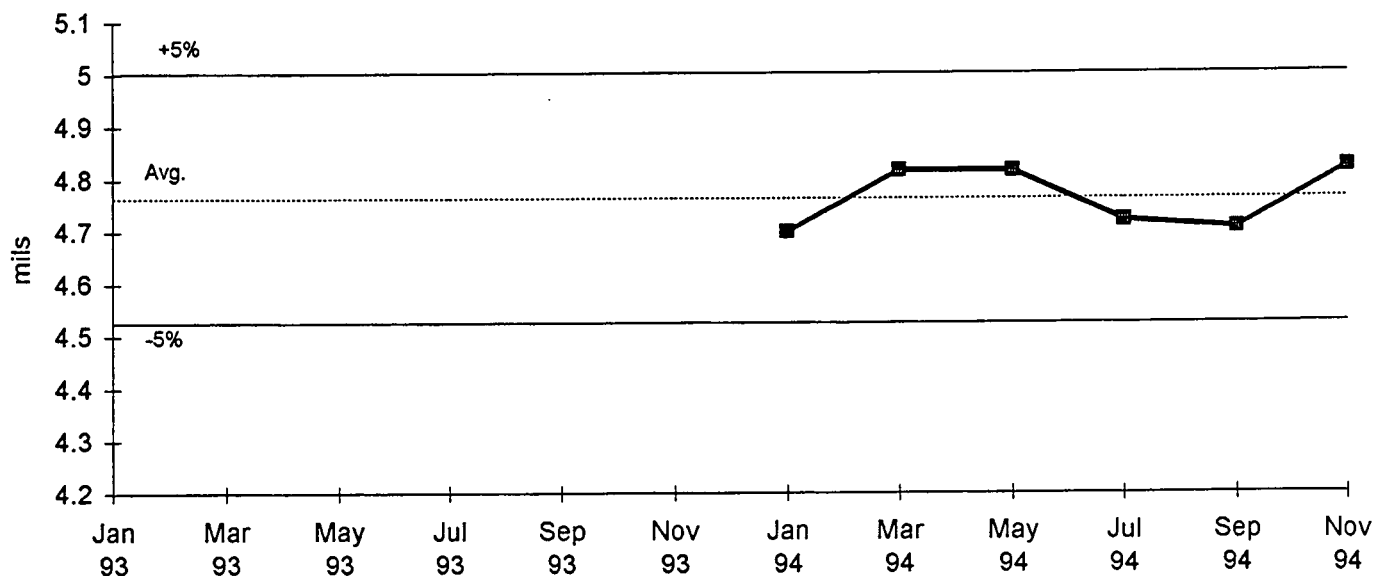
Kraft and Packaging Papers Division
For Periods Jul-Aug, Sep-Oct, Nov-Dec 1994

SUMMARY

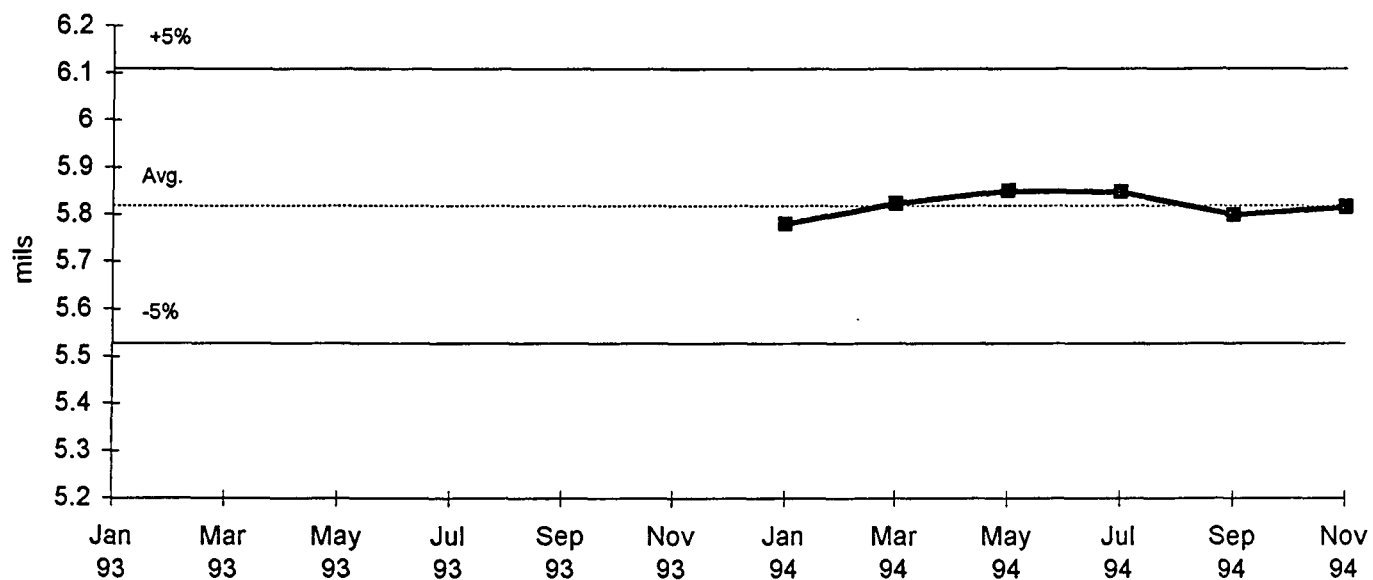
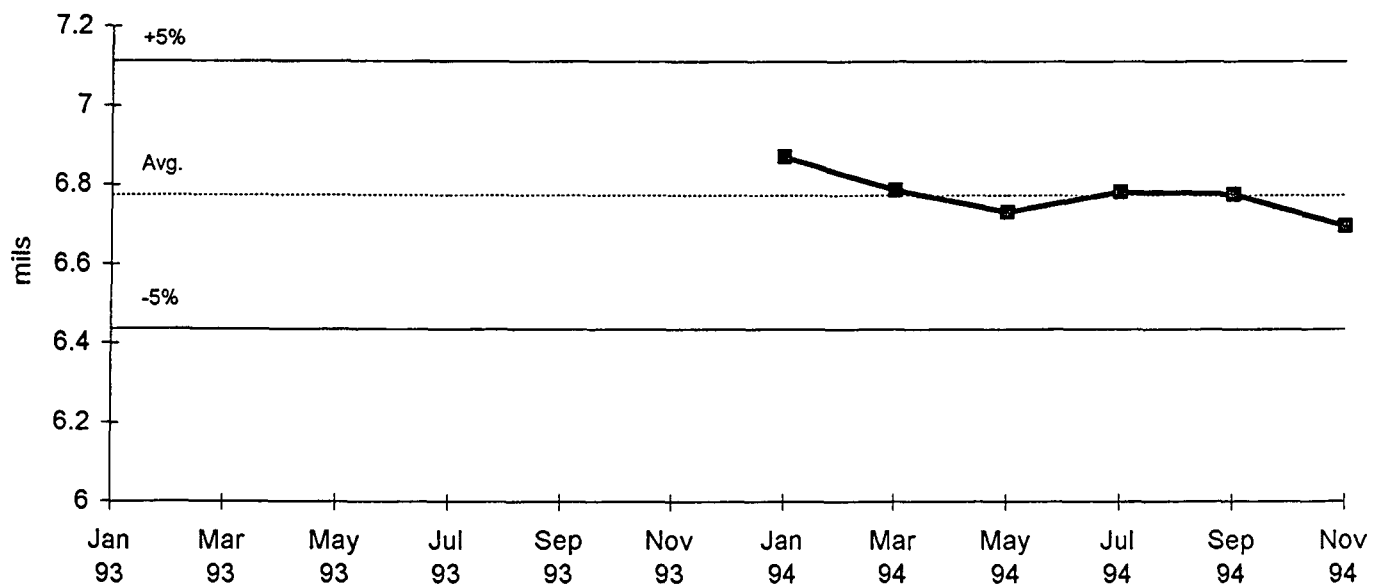
Flat
Thickness
mils

		JUL-AUG	SEP-OCT	NOV-DEC
40	Max	5.5	5.3	5.2
	Min	4.0	4.1	4.2
	Avg	4.7 (8)	4.7 (9)	4.8 (9)
	Stddev	.5	.4	.4
50	Max	6.7	6.6	6.5
	Min	5.1	5.1	5.2
	Avg	5.9 (11)	5.8 (11)	5.8 (13)
	Stddev	.5	.4	.4
60	Max	7.9	7.8	7.4
	Min	6.1	6.1	6.1
	Avg	6.8 (9)	6.8 (12)	6.7 (10)
	Stddev	.6	.5	.4

40# Flat Thickness



Note: Stddev is Standard Deviation of current machine averages.
Avg is Current KPPD average.
Number of machines is indicated in ().

50# Flat Thickness**60# Flat Thickness**

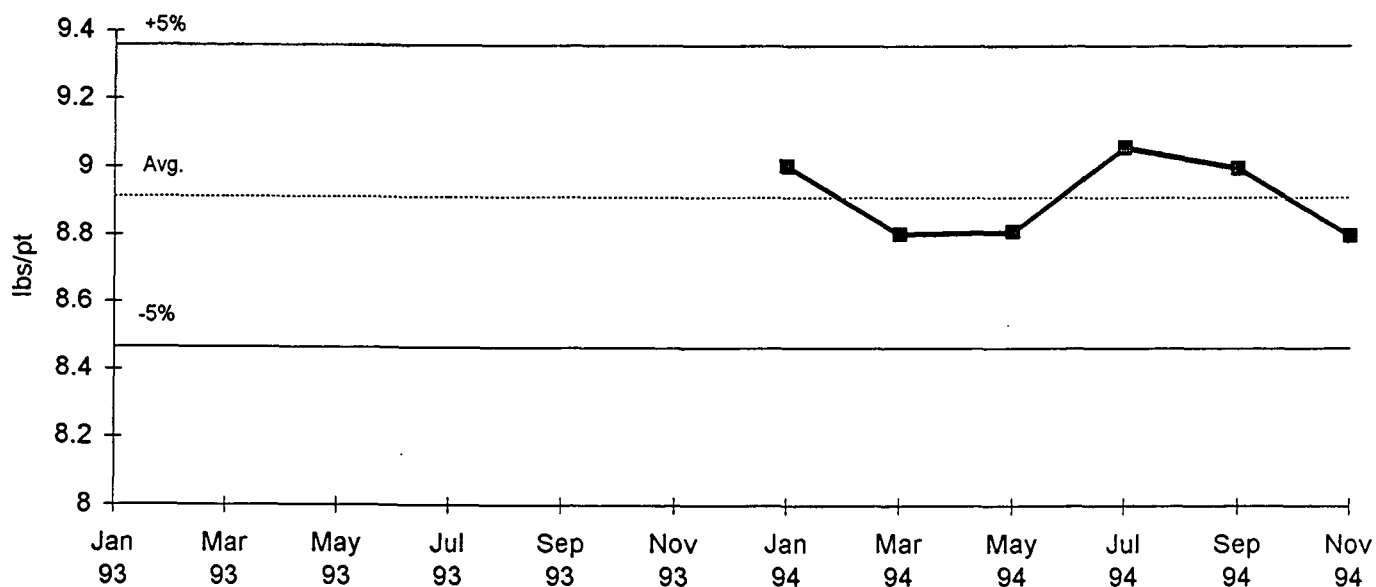
Kraft and Packaging Papers Division
For Periods Jul-Aug, Sep-Oct, Nov-Dec 1994

SUMMARY

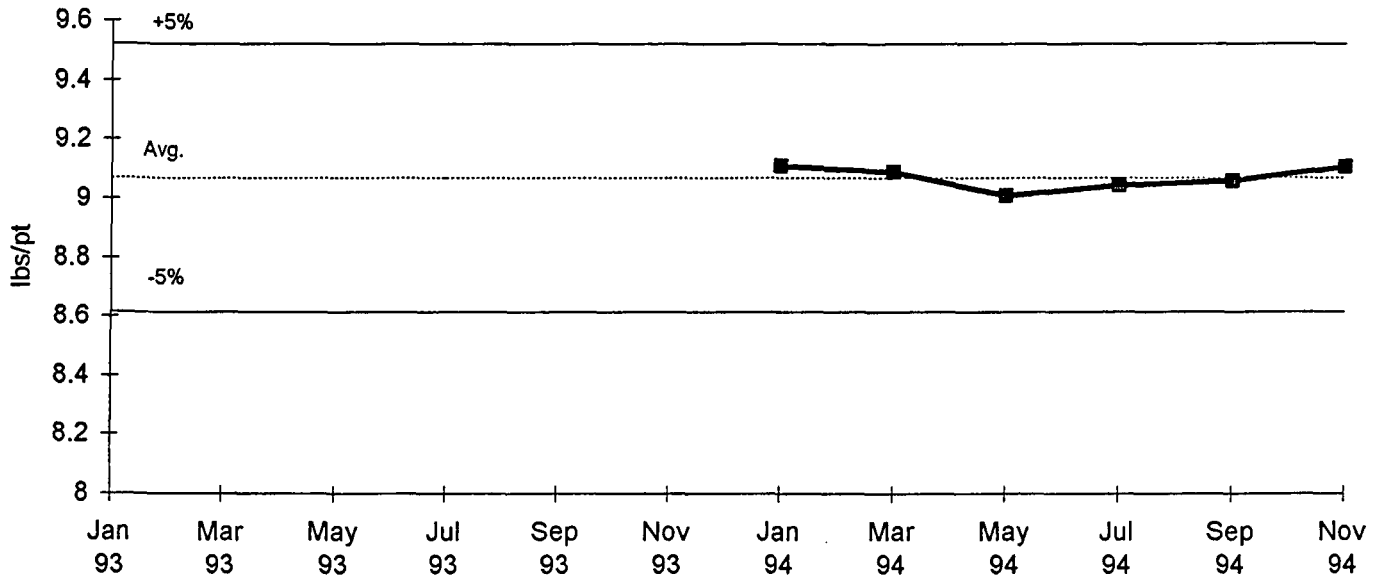
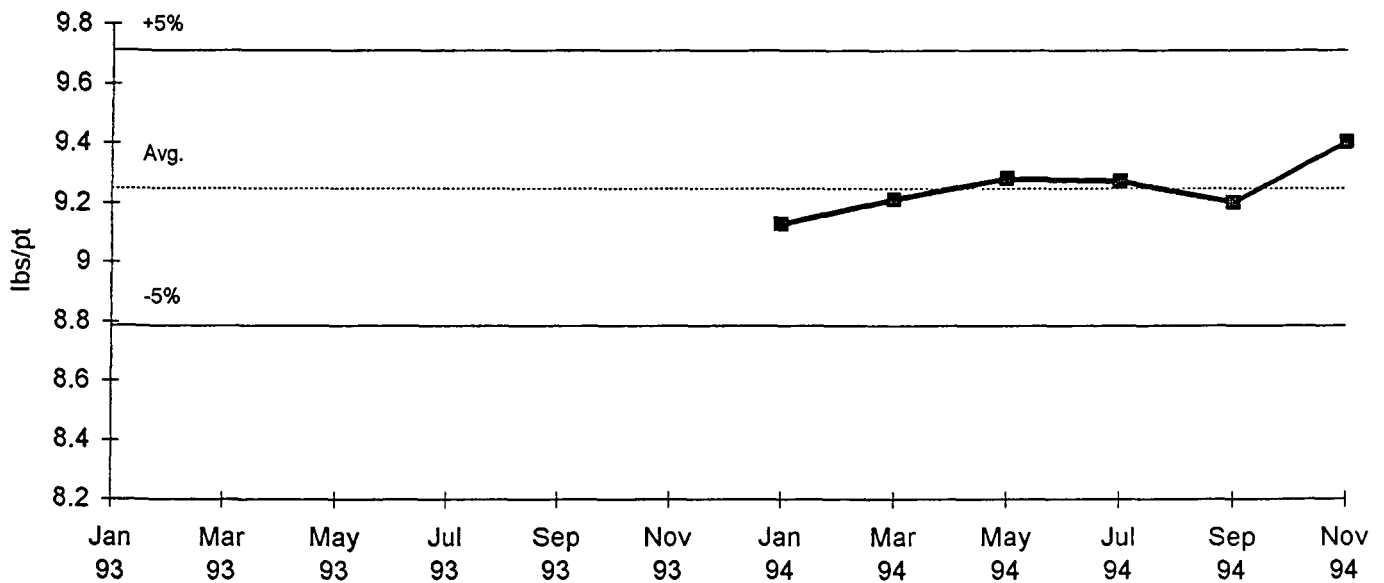
Flat
Apparent Density
lbs/pt

		JUL-AUG	SEP-OCT	NOV-DEC
40	Max	10.1	9.9	9.8
	Min	7.7	7.8	8.0
	Avg	9.1 (8)	9.0 (9)	8.8 (9)
	Stddev	.8	.7	.7
50	Max	10.1	10.1	10.0
	Min	7.8	7.9	8.0
	Avg	9.0 (11)	9.1 (11)	9.1 (13)
	Stddev	.7	.6	.6
60	Max	10.4	10.3	10.4
	Min	8.0	8.0	8.8
	Avg	9.3 (9)	9.2 (12)	9.4 (10)
	Stddev	.7	.6	.5

40# Flat Apparent Density



Note: Stddev is Standard Deviation of current machine averages.
Avg is Current KPPD average.
Number of machines is indicated in ().

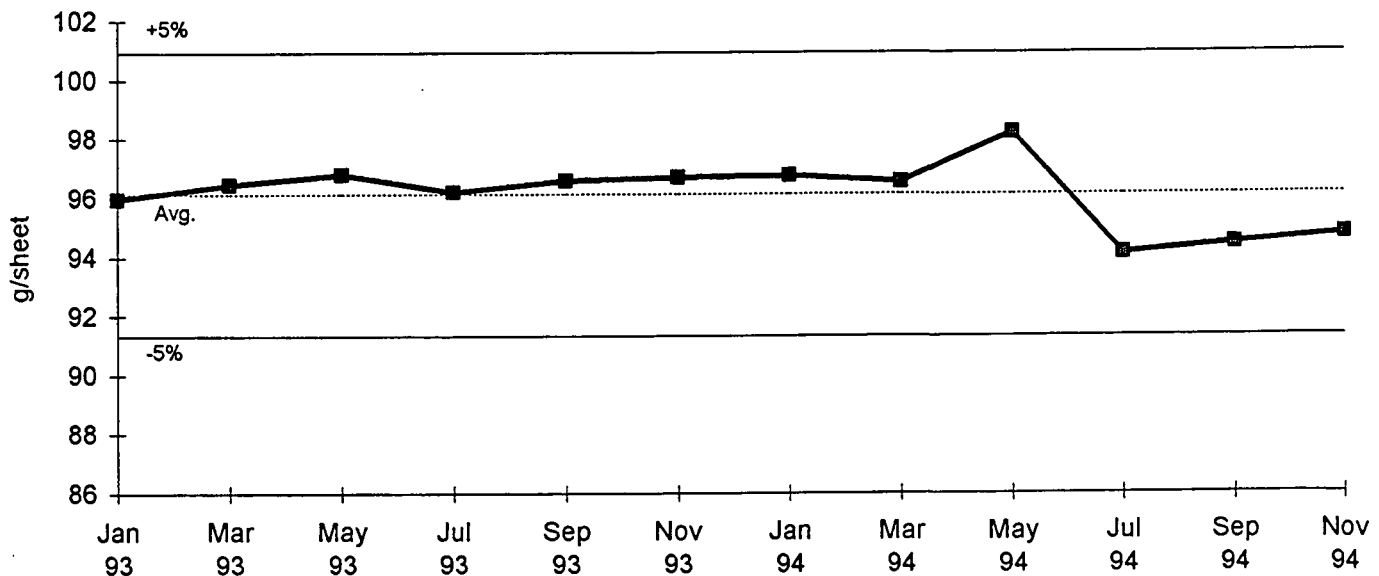
50# Flat Apparent Density**60# Flat Apparent Density**

Kraft and Packaging Papers Division
For Periods Jul-Aug, Sep-Oct, Nov-Dec 1994

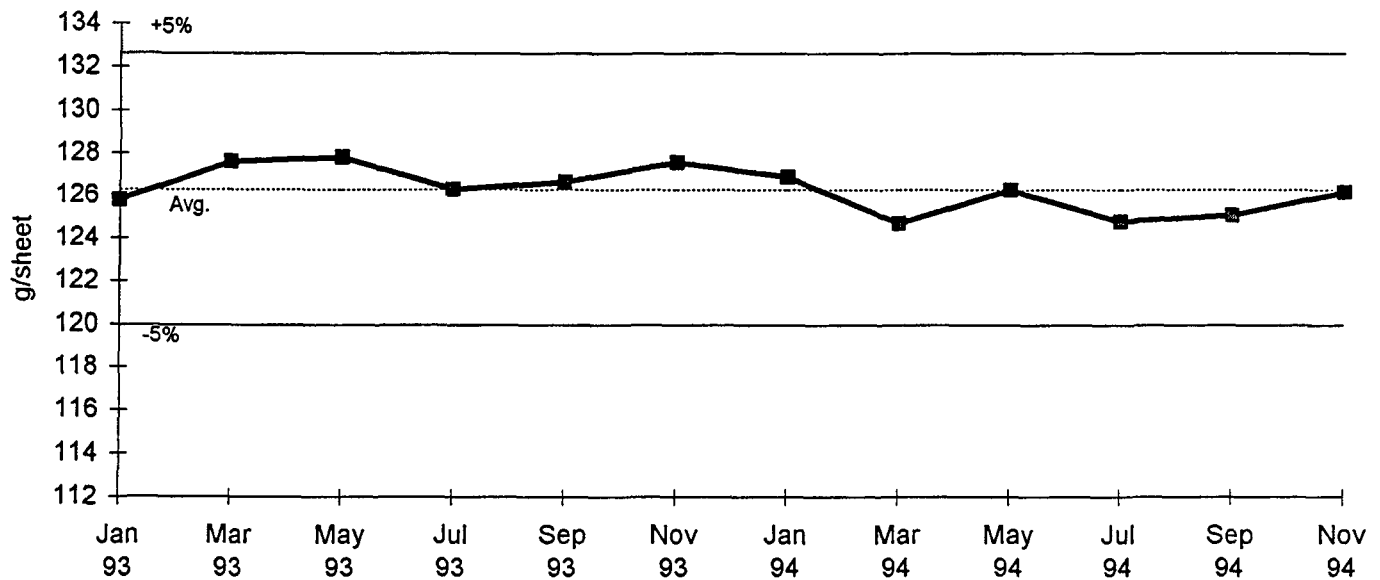
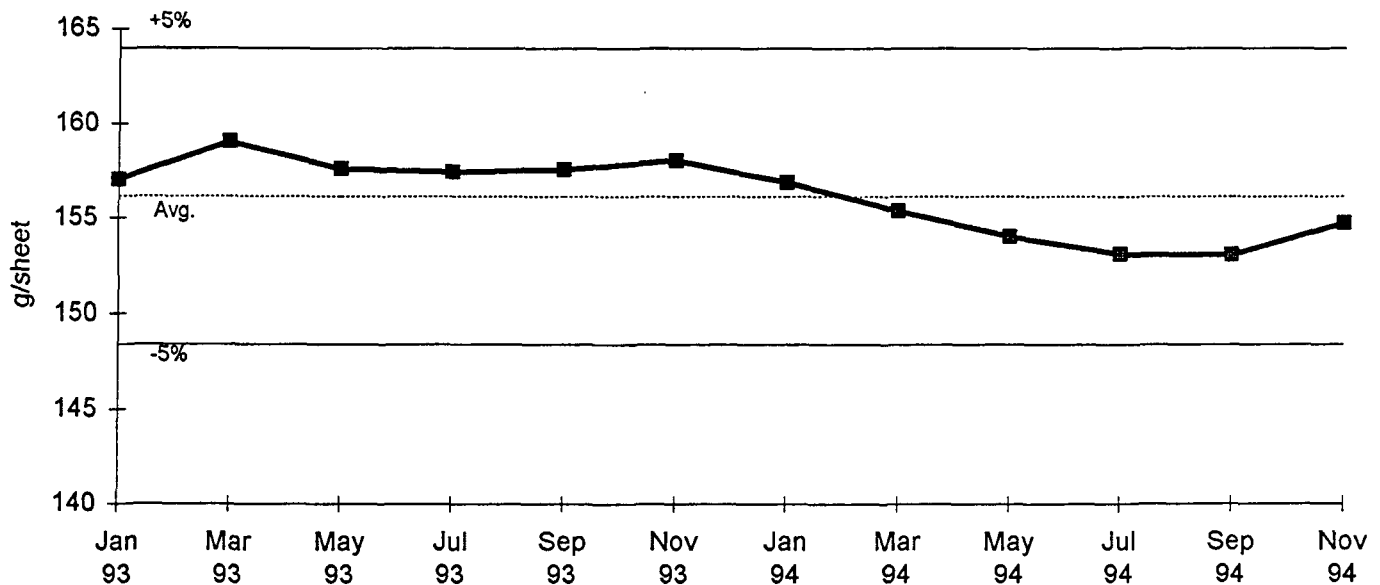
SUMMARY

		Flat Adjusted MD Tear g/sheet		
		JUL-AUG	SEP-OCT	NOV-DEC
40	Max	104.8	108.1	104.9
	Min	88.0	86.0	87.0
	Avg	94.1 (8)	94.5 (10)	94.7 (10)
	Stddev	6.3	7.1	6.0
50	Max	138.8	139.4	137.3
	Min	115.5	116.6	118.9
	Avg	124.8 (13)	125.1 (13)	126.2 (15)
	Stddev	6.8	6.9	5.9
60	Max	170.9	165.2	170.6
	Min	137.8	138.9	144.7
	Avg	153.1 (11)	153.1 (14)	154.7 (12)
	Stddev	8.8	7.2	7.1

40# Flat Adjusted MD Tear



Note: Stddev is Standard Deviation of current machine averages.
Avg is Current KPPD average.
Number of machines is indicated in ().

50# Flat Adjusted MD Tear**60# Flat Adjusted MD Tear**

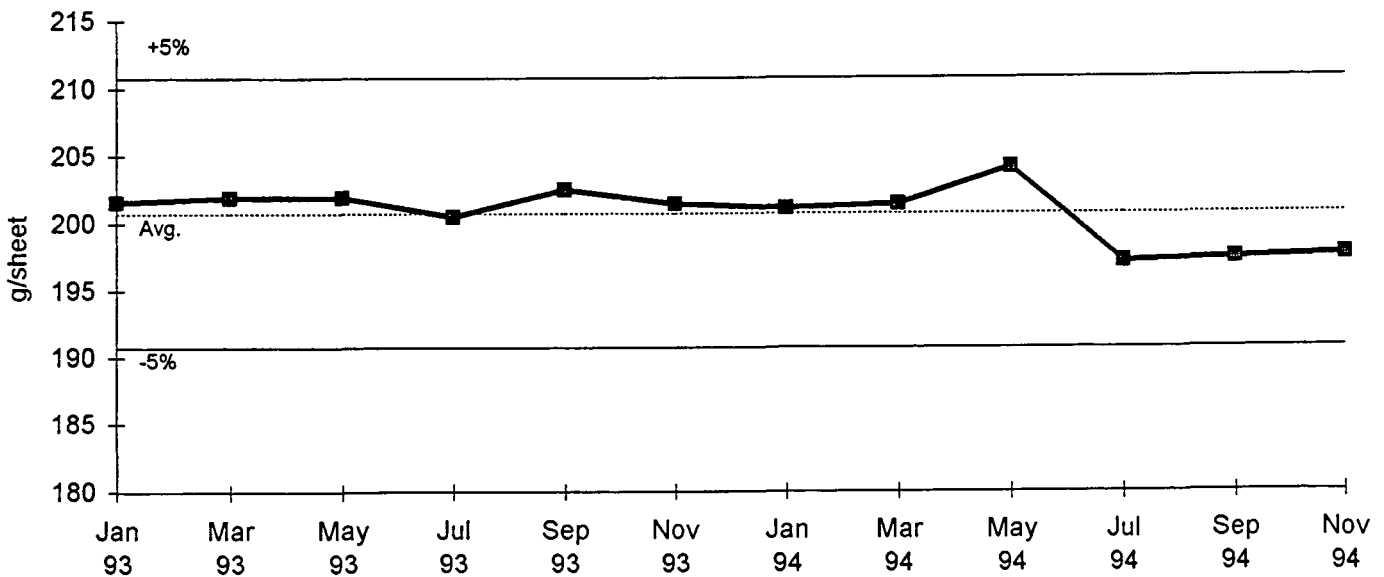
Kraft and Packaging Papers Division
For Periods Jul-Aug, Sep-Oct, Nov-Dec 1994

SUMMARY

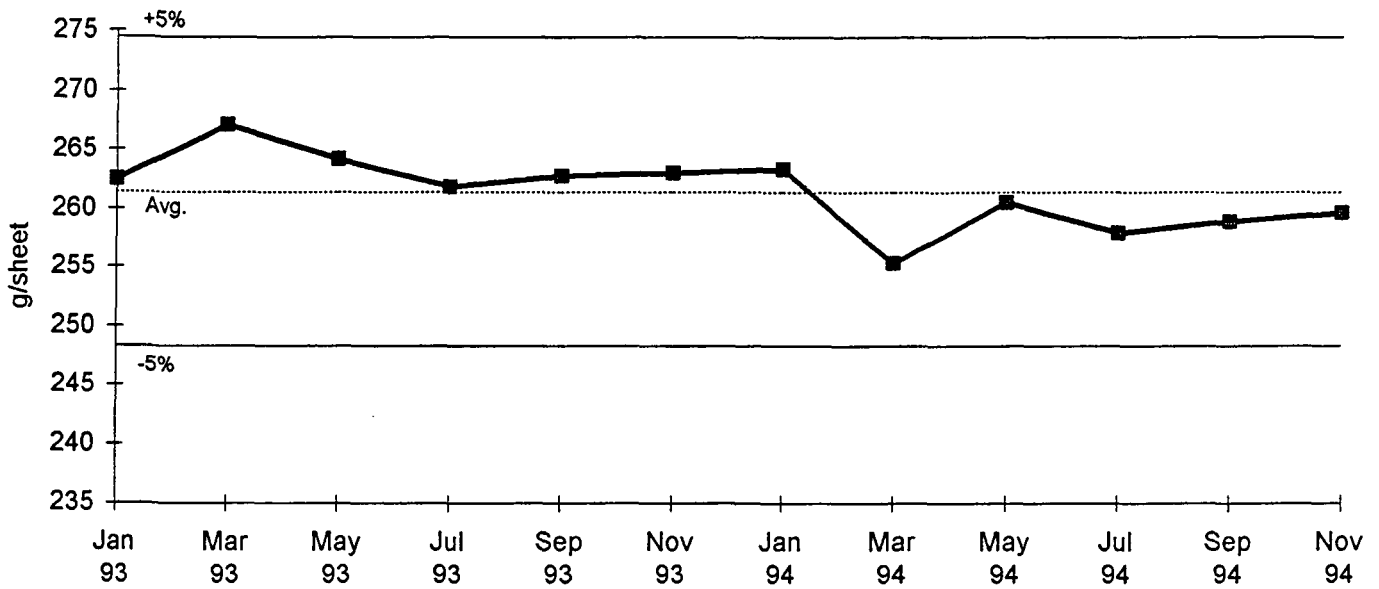
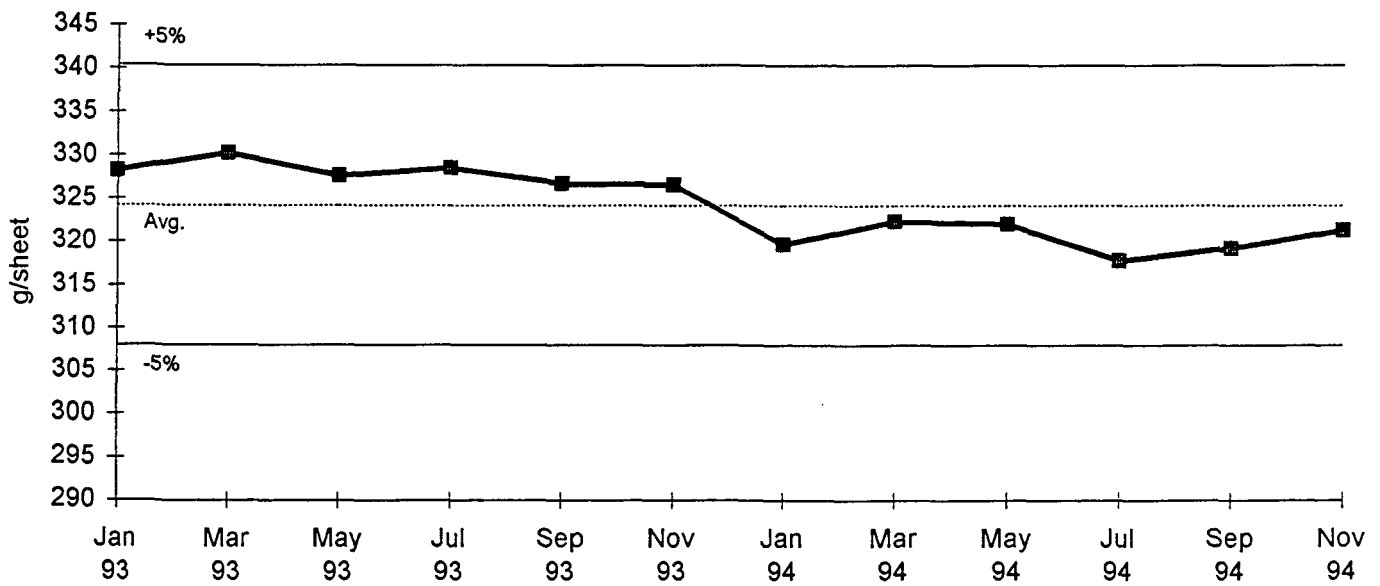
Flat
Adjusted Total Tear
g/sheet

		JUL-AUG	SEP-OCT	NOV-DEC
40	Max	211.8	223.7	221.5
	Min	187.6	187.5	187.1
	Avg	197.1 (9)	197.4 (10)	197.6 (10)
	Stddev	8.1	11.5	11.3
50	Max	280.2	281.2	283.6
	Min	240.5	243.5	242.6
	Avg	257.9 (13)	258.9 (13)	259.6 (15)
	Stddev	11.8	12.7	11.6
60	Max	342.2	349.0	344.5
	Min	294.7	300.0	303.2
	Avg	317.8 (11)	319.2 (14)	321.3 (12)
	Stddev	13.7	14.0	13.9

40# Flat Adjusted Total Tear



Note: Stddev is Standard Deviation of current machine averages.
Avg is Current KPPD average.
Number of machines is indicated in ().

50# Flat Adjusted Total Tear**60# Flat Adjusted Total Tear**

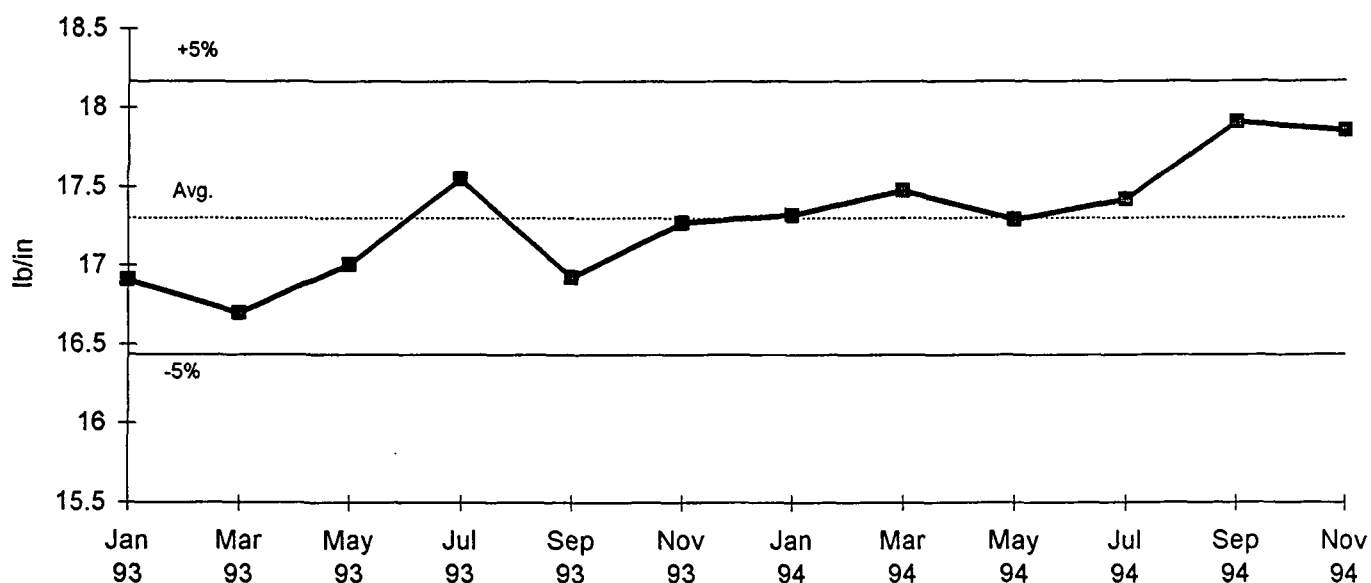
Kraft and Packaging Papers Division
For Periods Jul-Aug, Sep-Oct, Nov-Dec 1994

SUMMARY

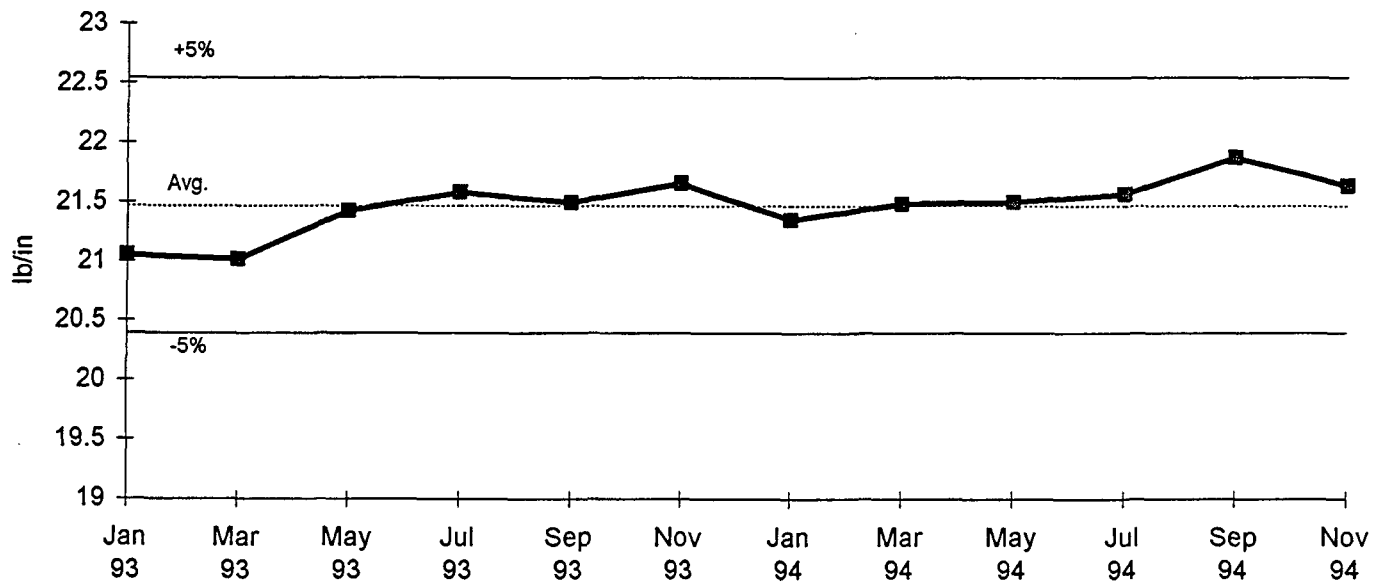
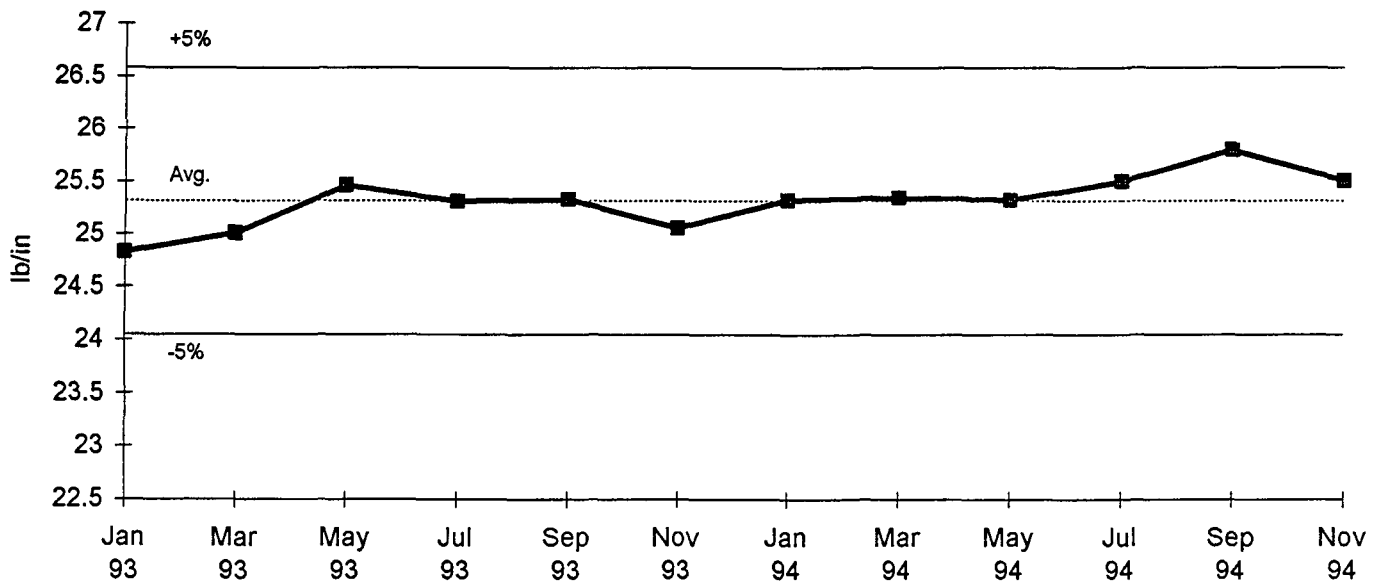
Flat
Adjusted CD Tensile
lb/in

		JUL-AUG	SEP-OCT	NOV-DEC
40	Max	20.1	20.5	20.6
	Min	14.3	14.5	14.5
	Avg	17.4 (9)	17.9 (10)	17.9 (10)
	Stddev	1.8	1.8	1.7
50	Max	25.4	25.7	26.1
	Min	18.3	19.4	18.7
	Avg	21.6 (13)	21.9 (13)	21.6 (15)
	Stddev	2.0	1.8	2.0
60	Max	29.4	30.2	30.7
	Min	22.8	22.8	22.5
	Avg	25.5 (11)	25.8 (14)	25.5 (12)
	Stddev	1.8	2.0	2.0

40# Flat Adjusted CD Tensile



Note: Stddev is Standard Deviation of current machine averages.
Avg is Current KPPD average.
Number of machines is indicated in ().

50# Flat Adjusted CD Tensile**60# Flat Adjusted CD Tensile**

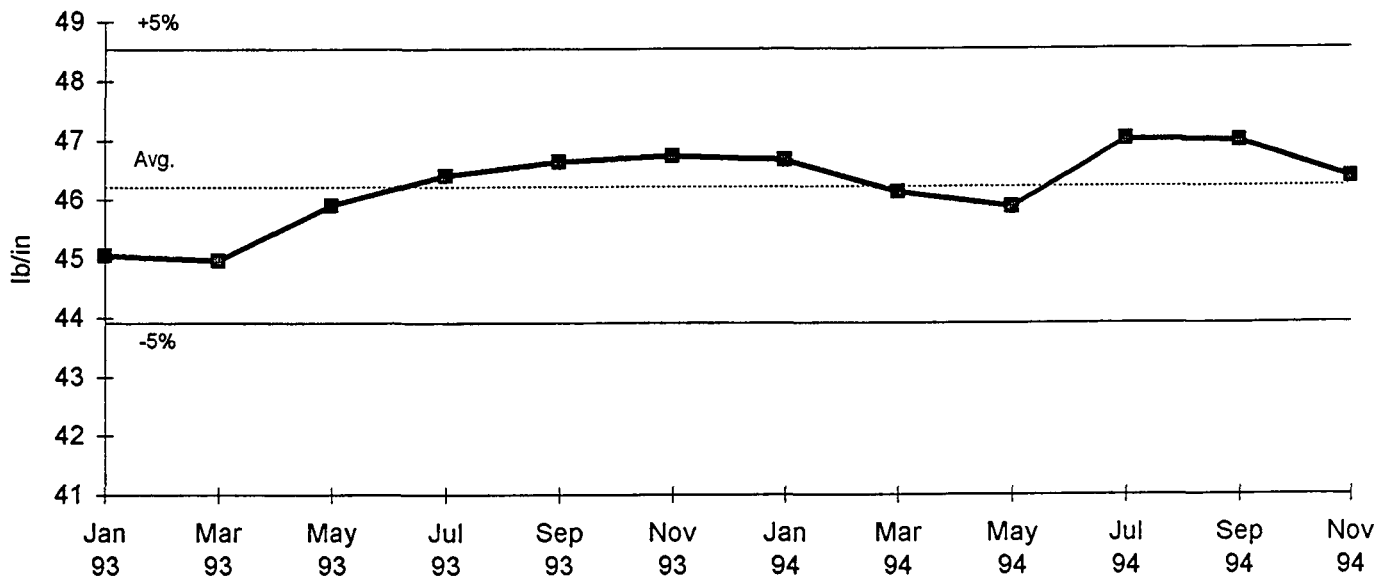
Kraft and Packaging Papers Division
For Periods Jul-Aug, Sep-Oct, Nov-Dec 1994

SUMMARY

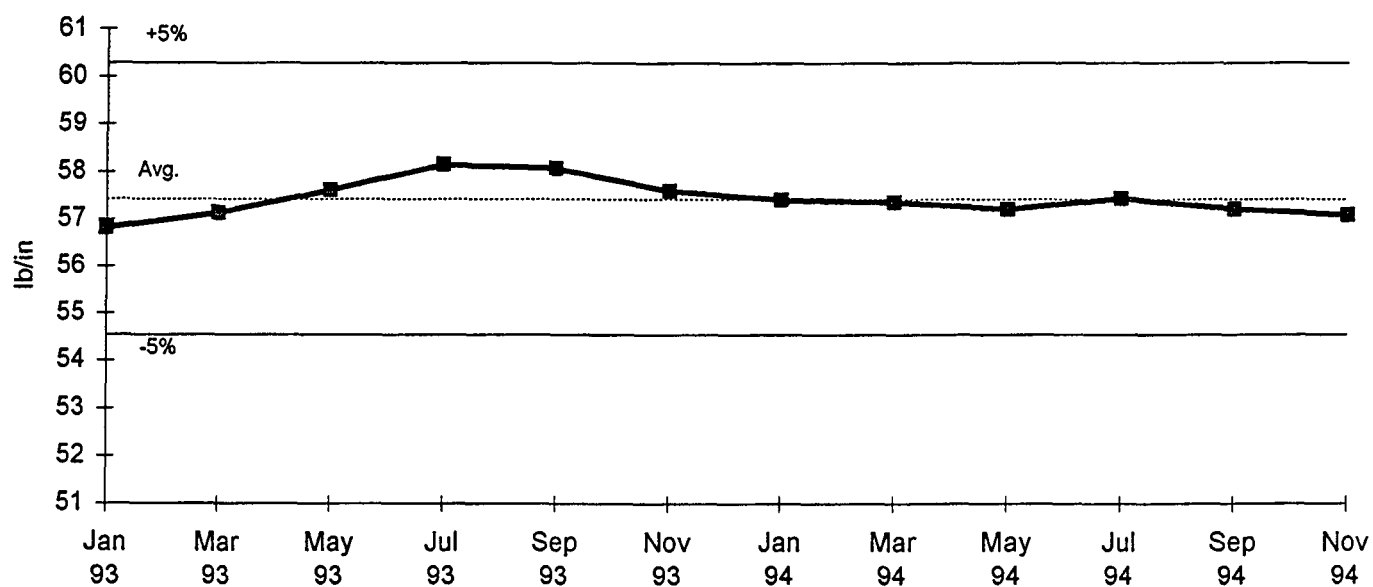
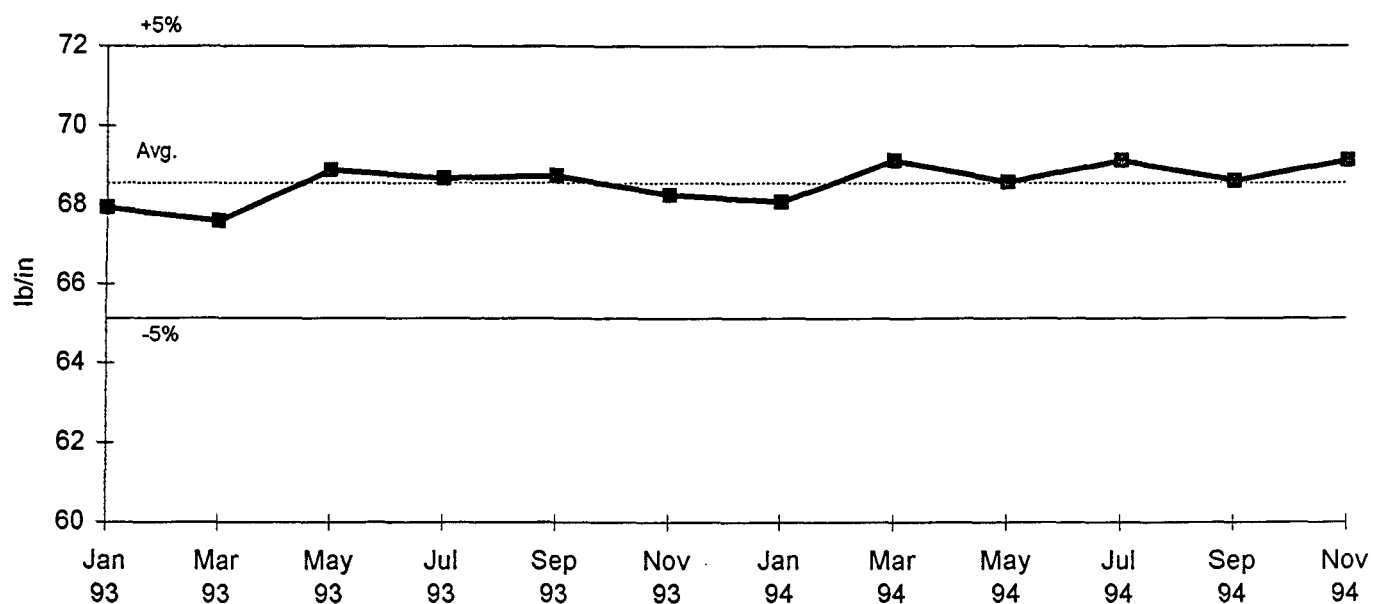
Flat
Adjusted Total Tensile
lb/in

		JUL-AUG	SEP-OCT	NOV-DEC
40	Max	50.7	50.9	50.9
	Min	43.2	41.3	42.6
	Avg	47.0 (9)	47.0 (10)	46.4 (10)
	Stddev	2.2	2.9	2.4
50	Max	62.2	60.2	60.1
	Min	51.0	54.4	53.6
	Avg	57.4 (13)	57.2 (13)	57.1 (15)
	Stddev	2.9	1.7	2.1
60	Max	73.4	74.7	74.2
	Min	63.0	62.1	62.5
	Avg	69.1 (11)	68.6 (14)	69.1 (12)
	Stddev	3.4	3.5	3.3

40# Flat Adjusted Total Tensile



Note: Stddev is Standard Deviation of current machine averages.
Avg is Current KPPD average.
Number of machines is indicated in ().

50# Flat Adjusted Total Tensile**60# Flat Adjusted Total Tensile**

Kraft and Packaging Papers Division
For Periods Jul-Aug, Sep-Oct, Nov-Dec 1994

SUMMARY

Extensible
Moist @ reel
Percent

		JUL-AUG	SEP-OCT	NOV-DEC
50	Max	6.2	5.8	6.0
	Min	4.2	4.1	4.0
	Avg	5.0 (4)	4.8 (4)	4.7 (4)
	Stddev	.8	.7	.9
60	Max	6.4	5.9	6.1
	Min	4.1	4.1	4.2
	Avg	5.1 (4)	4.8 (4)	4.7 (4)
	Stddev	1.0	.7	.8

Note: Stddev is Standard Deviation of current machine averages.
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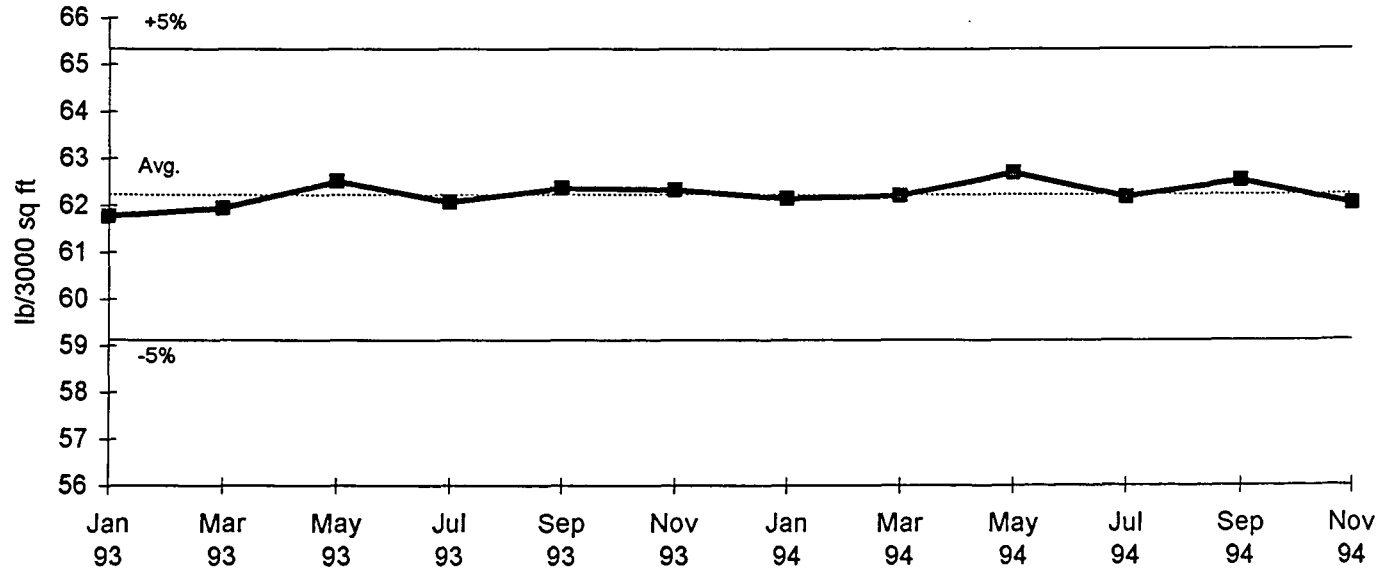
Kraft and Packaging Papers Division
For Periods Jul-Aug, Sep-Oct, Nov-Dec 1994

SUMMARY

		Extensible Adjusted Basis Weight *A Lbs/M Sq Ft		
		JUL-AUG	SEP-OCT	NOV-DEC
50	Max	52.9	53.0	53.3
	Min	50.6	50.6	50.8
	Avg	52.0 (4)	52.1 (4)	52.2 (4)
	Stddev	1.1	1.1	1.0
60	Max	63.4	63.9	63.2
	Min	60.7	59.9	60.7
	Avg	62.2 (4)	62.5 (4)	62.0 (4)
	Stddev	1.2	1.7	1.0

Note: Stddev is Standard Deviation of current machine averages.
Avg is Current KPPD average.
Number of machines is indicated in ().
Note A is given in the appendix

60# Extensible Adjusted Basis Weight *A



Note A is given in the appendix

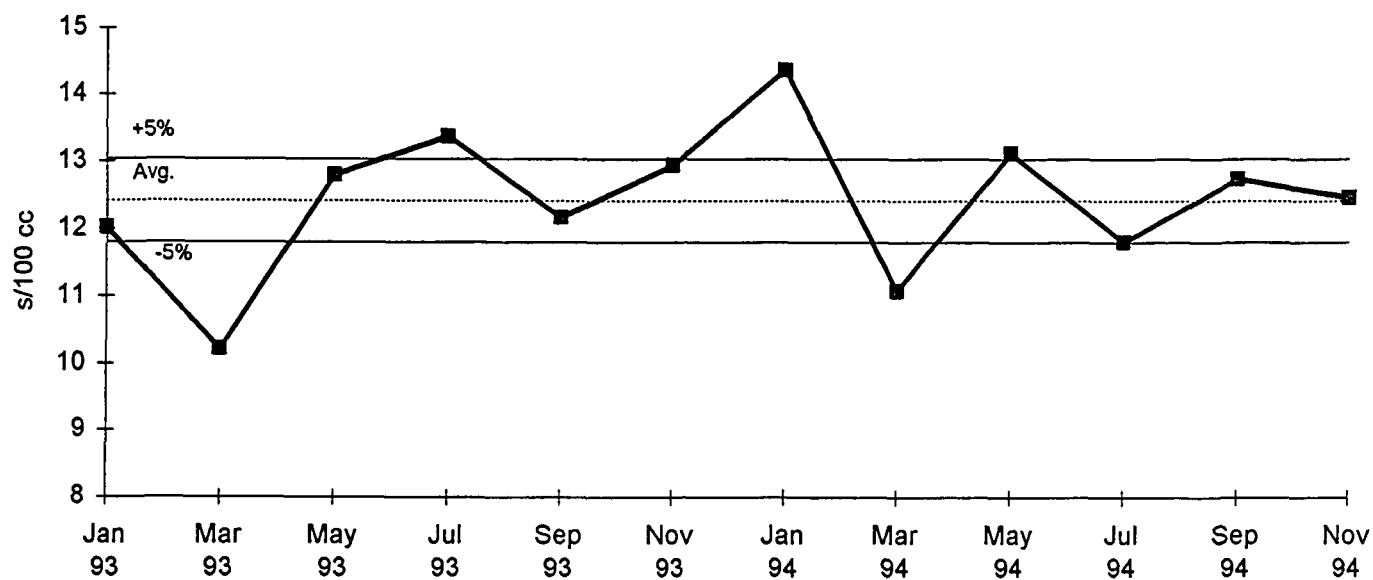
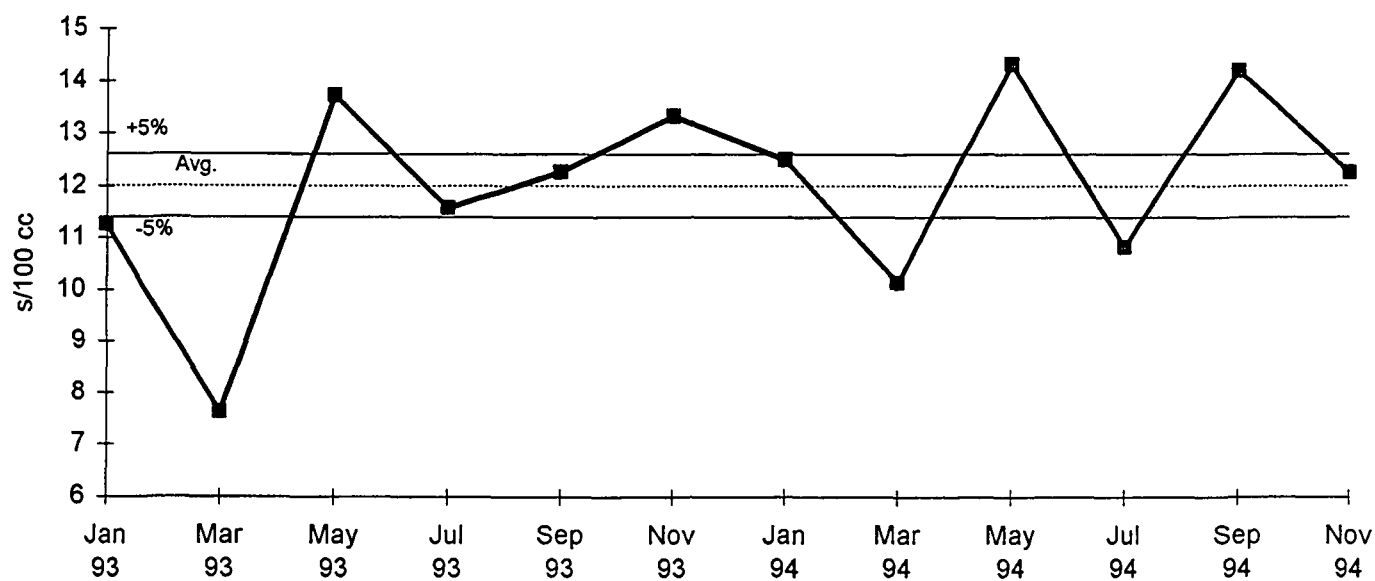
Kraft and Packaging Papers Division
For Periods Jul-Aug, Sep-Oct, Nov-Dec 1994

SUMMARY

Extensible
Porosity
s/100 cc

		JUL-AUG	SEP-OCT	NOV-DEC
50	Max	17.5	17.9	18.7
	Min	3.0	3.0	3.0
	Avg	11.8 (4)	12.7 (4)	12.5 (4)
	Stddev	6.8	7.0	7.2
60	Max	18.0	17.0	17.6
	Min	3.0	4.0	3.5
	Avg	10.8 (4)	14.2 (4)	12.3 (4)
	Stddev	6.9	6.2	6.6

Note: Stddev is Standard Deviation of current machine averages.
Avg is Current KPPD average.
Number of machines is indicated in ().

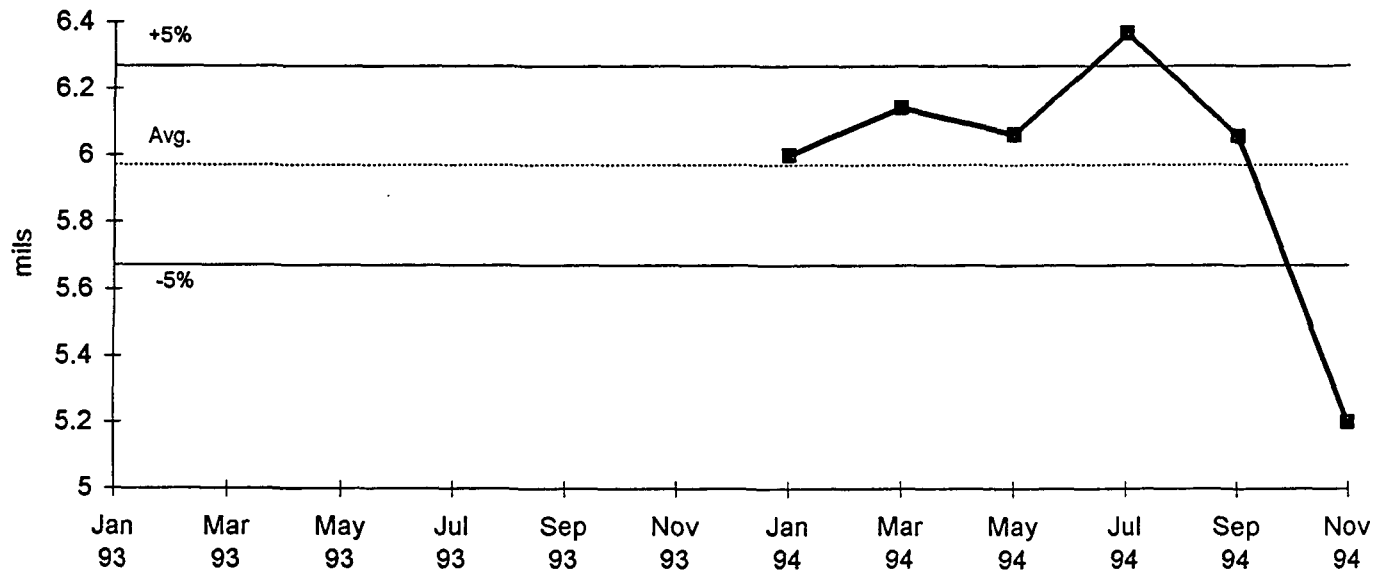
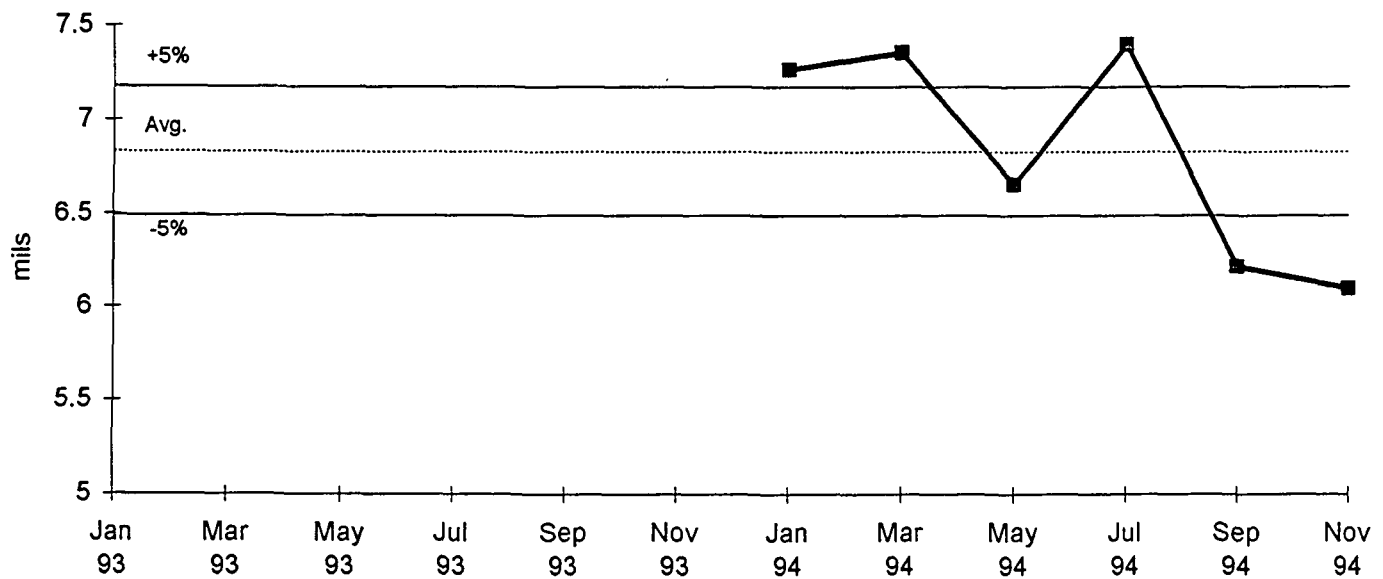
50# Extensible Porosity**60# Extensible Porosity**

Kraft and Packaging Papers Division
For Periods Jul-Aug, Sep-Oct, Nov-Dec 1994

SUMMARY

		Extensible Thickness mils		
		JUL-AUG	SEP-OCT	NOV-DEC
50	Max	8.5	8.0	5.4
	Min	5.0	5.0	5.1
	Avg	6.4 (4)	6.1 (4)	5.2 (3)
	Stddev	1.6	1.3	.2
60	Max	9.8	6.4	6.3
	Min	6.0	6.0	6.0
	Avg	7.4 (4)	6.2 (3)	6.1 (3)
	Stddev	1.8	.2	.2

Note: Stddev is Standard Deviation of current machine averages.
Avg is Current KPPD average.
Number of machines is indicated in ().

50# Extensible Thickness**60# Extensible Thickness**

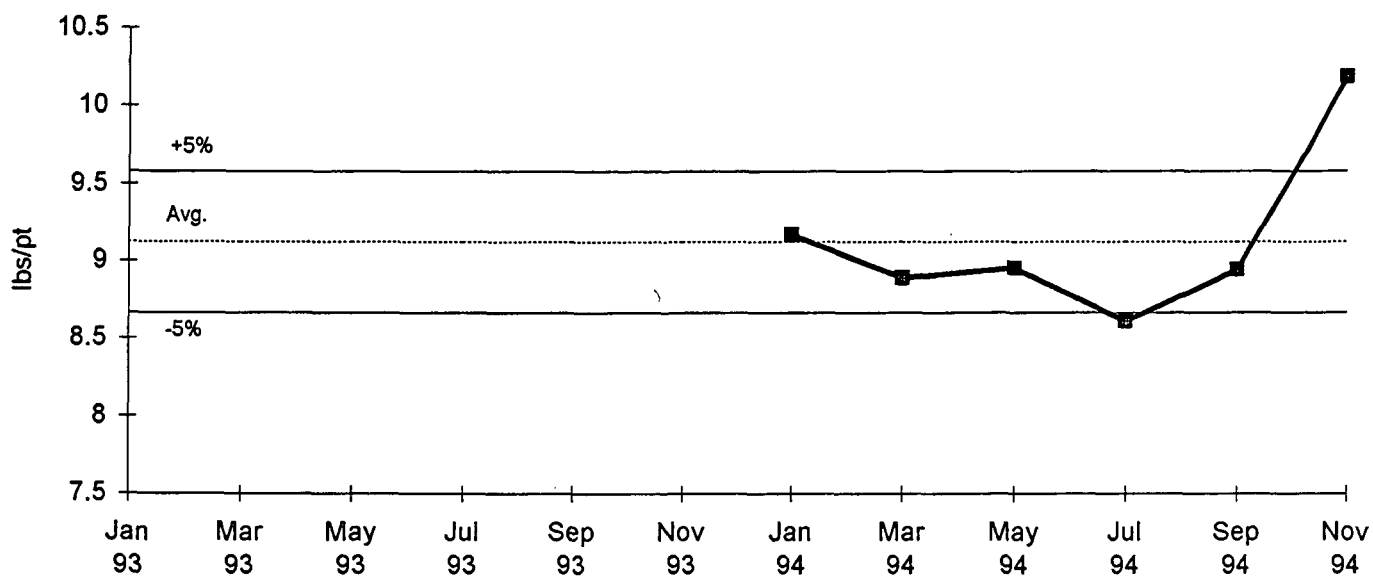
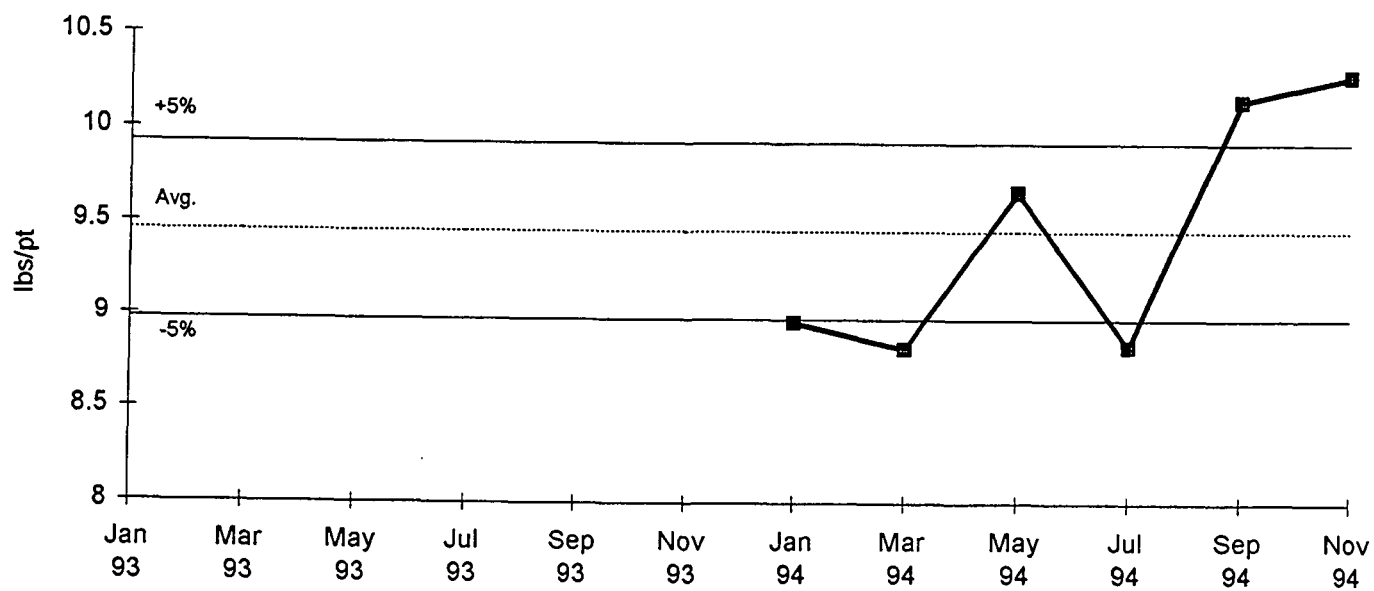
Kraft and Packaging Papers Division
For Periods Jul-Aug, Sep-Oct, Nov-Dec 1994

SUMMARY

Extensible
Apparent Density
lbs/pt

		JUL-AUG	SEP-OCT	NOV-DEC
50	Max	10.6	10.6	10.6
	Min	6.0	6.4	9.7
	Avg	8.6 (4)	8.9 (4)	10.2 (3)
	Stddev	2.1	1.8	.4
60	Max	10.6	10.7	10.6
	Min	6.2	9.8	9.9
	Avg	8.8 (4)	10.2 (3)	10.3 (3)
	Stddev	2.1	.5	.4

Note: Stddev is Standard Deviation of current machine averages.
Avg is Current KPPD average.
Number of machines is indicated in ().

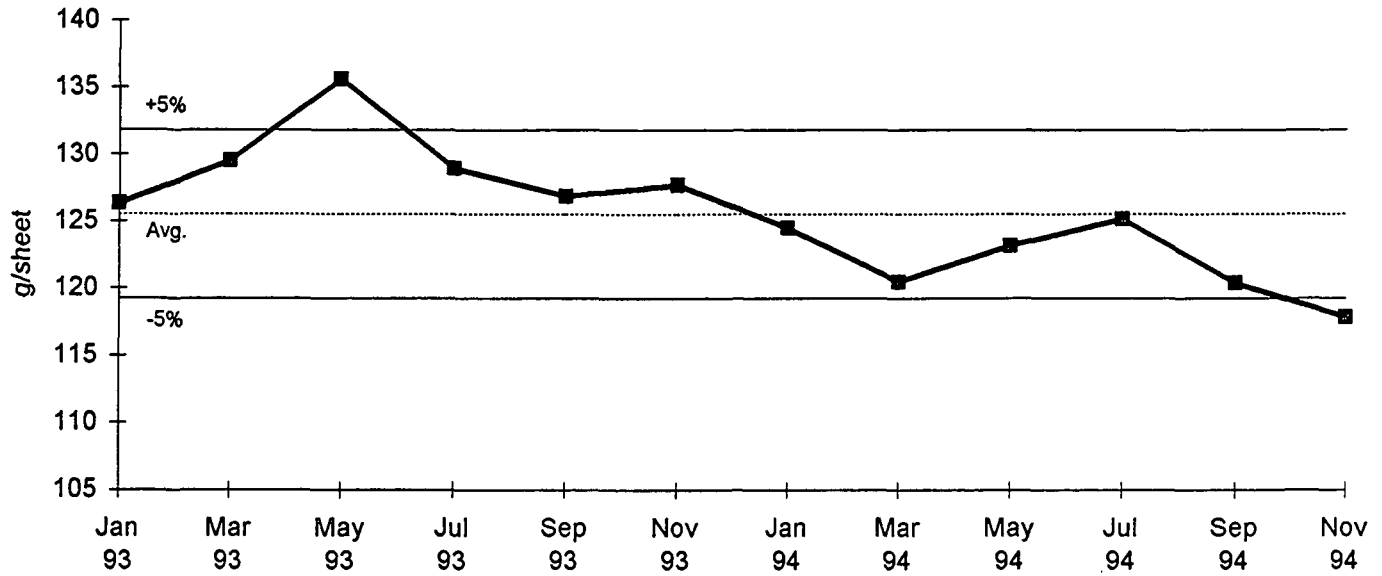
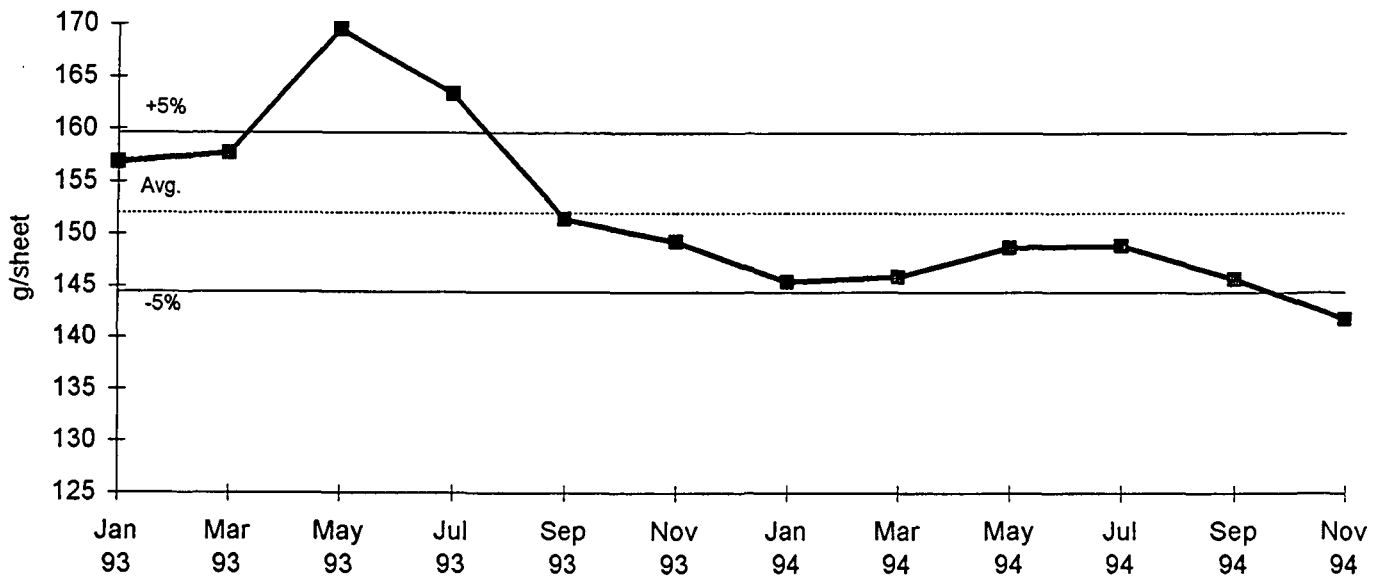
50# Extensible Apparent Density**60# Extensible Apparent Density**

Kraft and Packaging Papers Division
For Periods Jul-Aug, Sep-Oct, Nov-Dec 1994

SUMMARY

		Extensible Adjusted MD Tear g/sheet		
		JUL-AUG	SEP-OCT	NOV-DEC
50	Max	127.4	130.4	124.5
	Min	121.0	112.0	109.0
	Avg	125.1 (4)	120.3 (4)	117.8 (4)
	Stddev	2.9	7.6	6.8
60	Max	157.4	152.5	145.5
	Min	138.9	136.5	134.5
	Avg	148.9 (4)	145.7 (4)	141.8 (4)
	Stddev	8.5	6.9	5.5

Note: Stddev is Standard Deviation of current machine averages.
Avg is Current KPPD average.
Number of machines is indicated in ().

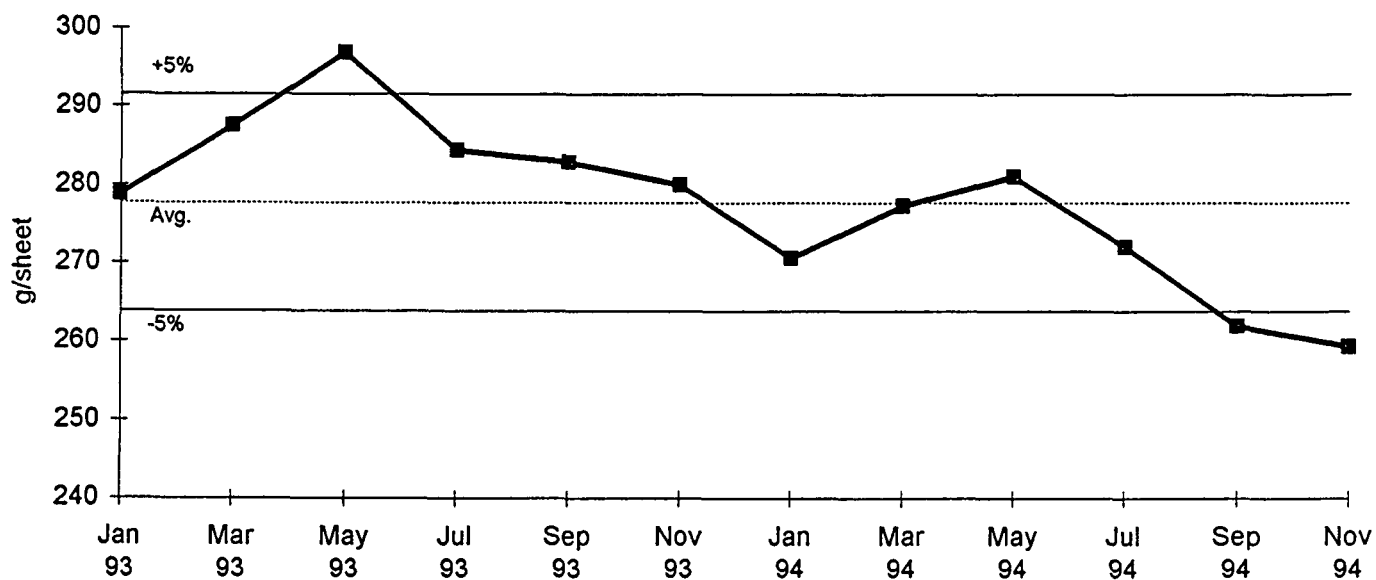
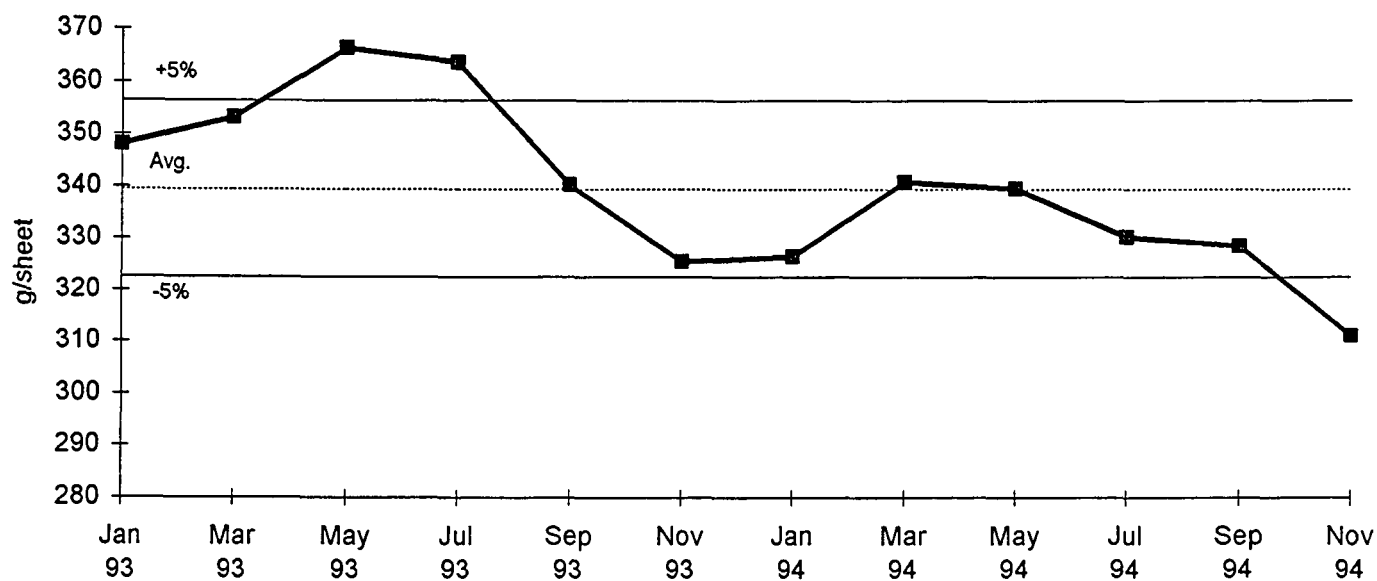
50# Extensible Adjusted MD Tear**60# Extensible Adjusted MD Tear**

Kraft and Packaging Papers Division
For Periods Jul-Aug, Sep-Oct, Nov-Dec 1994

SUMMARY

		Extensible Adjusted Total Tear g/sheet		
		JUL-AUG	SEP-OCT	NOV-DEC
50	Max	282.0	274.5	268.0
	Min	260.0	255.5	251.0
	Avg	272.1 (4)	262.0 (4)	259.4 (4)
	Stddev	11.0	8.2	8.9
60	Max	347.2	342.4	327.8
	Min	311.0	315.0	303.2
	Avg	330.3 (4)	328.6 (4)	311.2 (4)
	Stddev	14.9	11.6	11.1

Note: Stddev is Standard Deviation of current machine averages.
Avg is Current KPPD average.
Number of machines is indicated in ().

50# Extensible Adjusted Total Tear**60# Extensible Adjusted Total Tear**

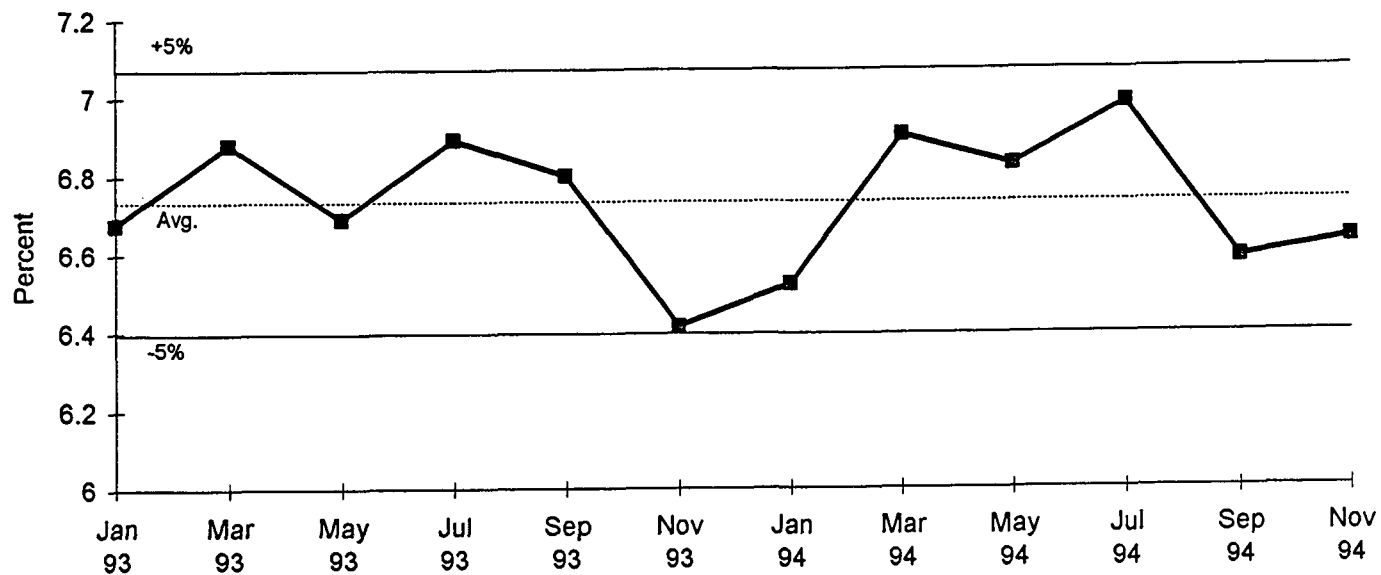
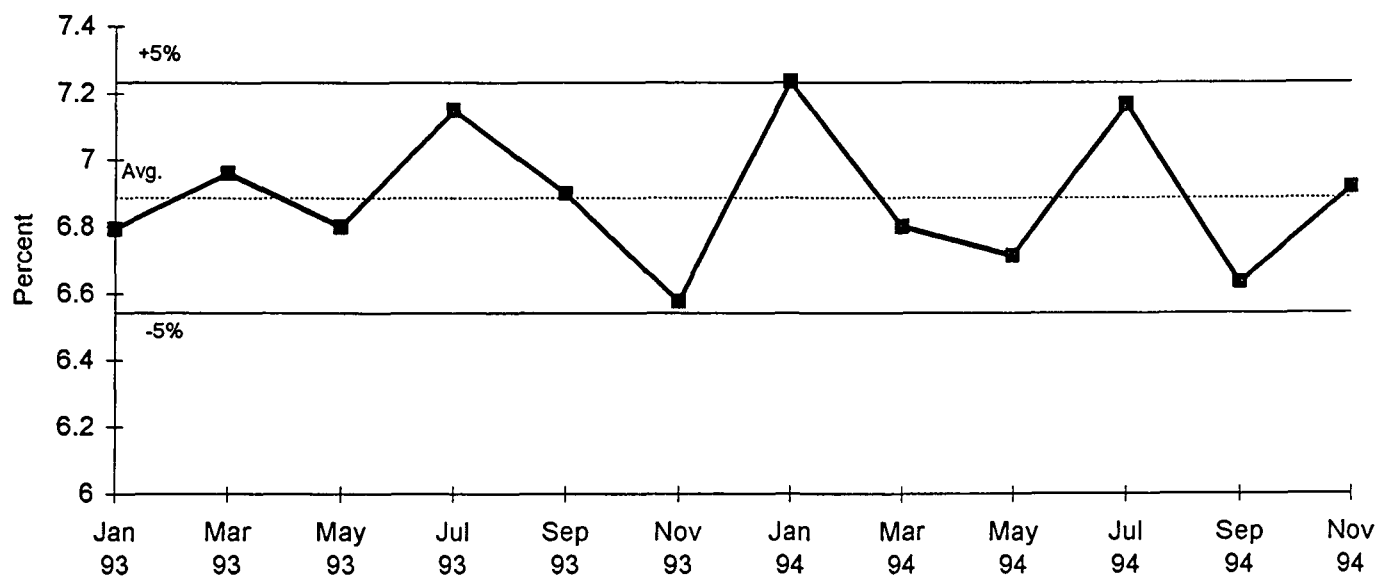
Kraft and Packaging Papers Division
For Periods Jul-Aug, Sep-Oct, Nov-Dec 1994

SUMMARY

Extensible
MD Stretch
Percent

		JUL-AUG	SEP-OCT	NOV-DEC
50	Max	8.5	8.1	7.8
	Min	6.0	6.0	5.8
	Avg	7.0 (4)	6.6 (4)	6.6 (4)
	Stddev	1.2	1.1	.9
60	Max	9.0	8.8	8.4
	Min	6.1	6.1	6.1
	Avg	7.2 (4)	6.6 (4)	6.9 (4)
	Stddev	1.3	1.3	1.1

Note: Stddev is Standard Deviation of current machine averages.
Avg is Current KPPD average.
Number of machines is indicated in ().

50# Extensible MD Stretch**60# Extensible MD Stretch**

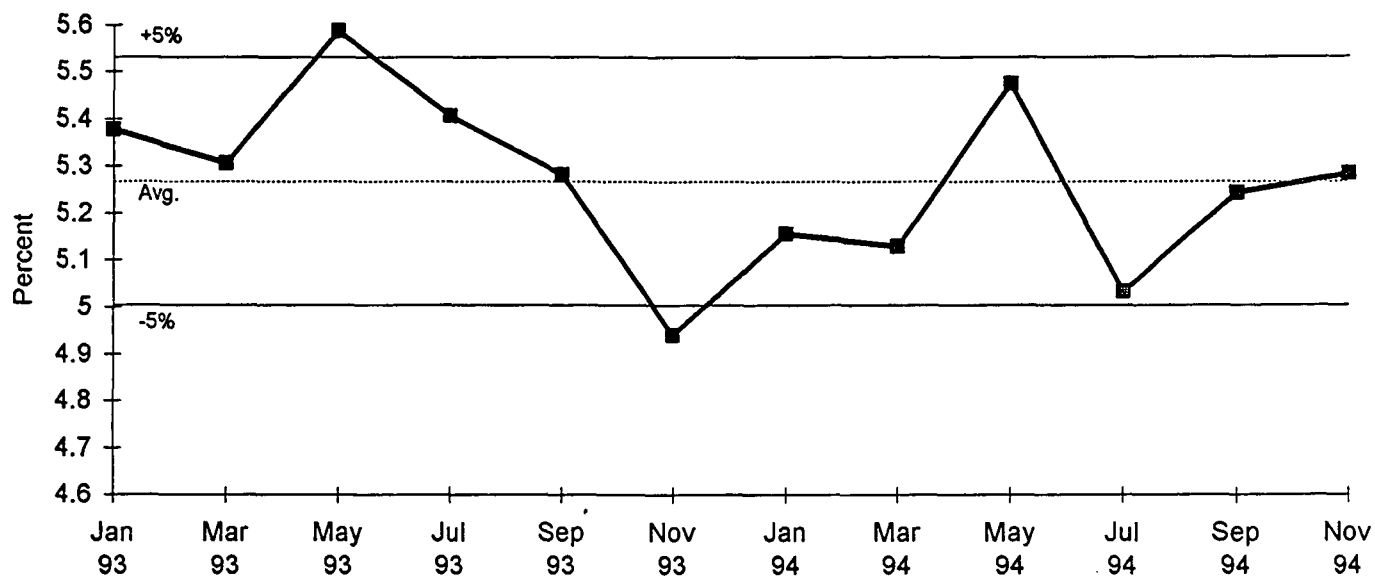
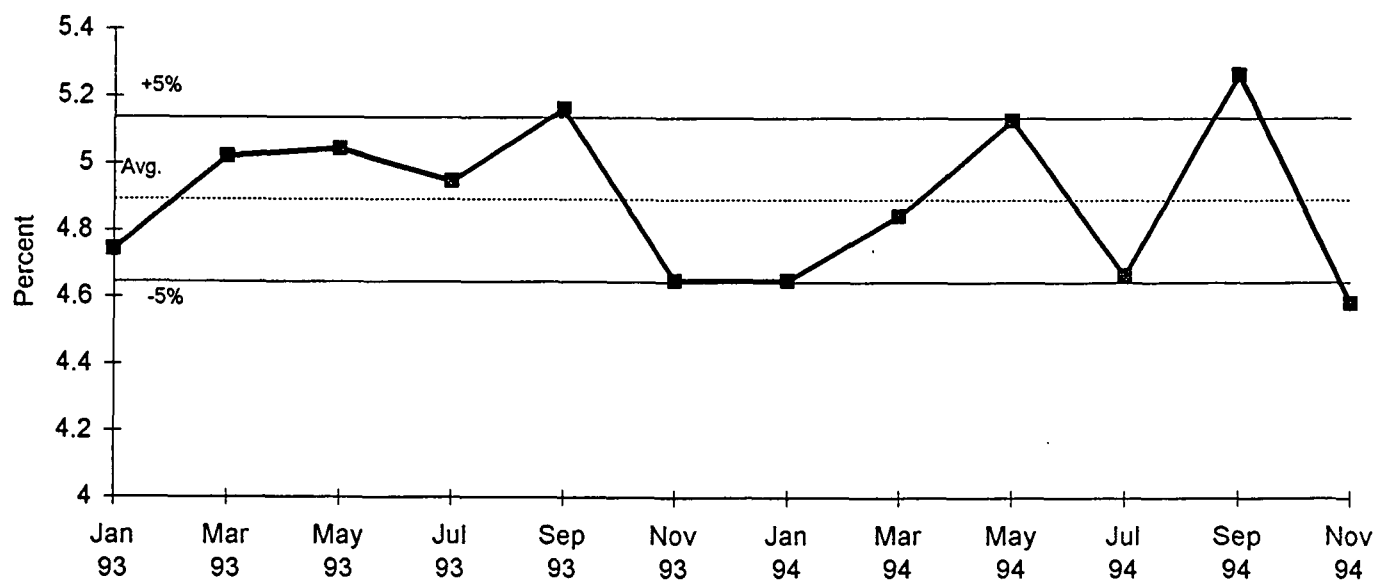
Kraft and Packaging Papers Division
For Periods Jul-Aug, Sep-Oct, Nov-Dec 1994

SUMMARY

Extensible
CD Stretch
Percent

		JUL-AUG	SEP-OCT	NOV-DEC
50	Max	6.0	6.5	6.2
	Min	4.5	4.4	4.7
	Avg	5.0 (4)	5.2 (4)	5.3 (4)
	Stddev	.6	.9	.7
60	Max	5.4	5.8	4.8
	Min	4.4	4.1	4.1
	Avg	4.7 (4)	5.3 (4)	4.6 (4)
	Stddev	.4	.7	.3

Note: Stddev is Standard Deviation of current machine averages.
Avg is Current KPPD average.
Number of machines is indicated in ().

50# Extensible CD Stretch**60# Extensible CD Stretch**

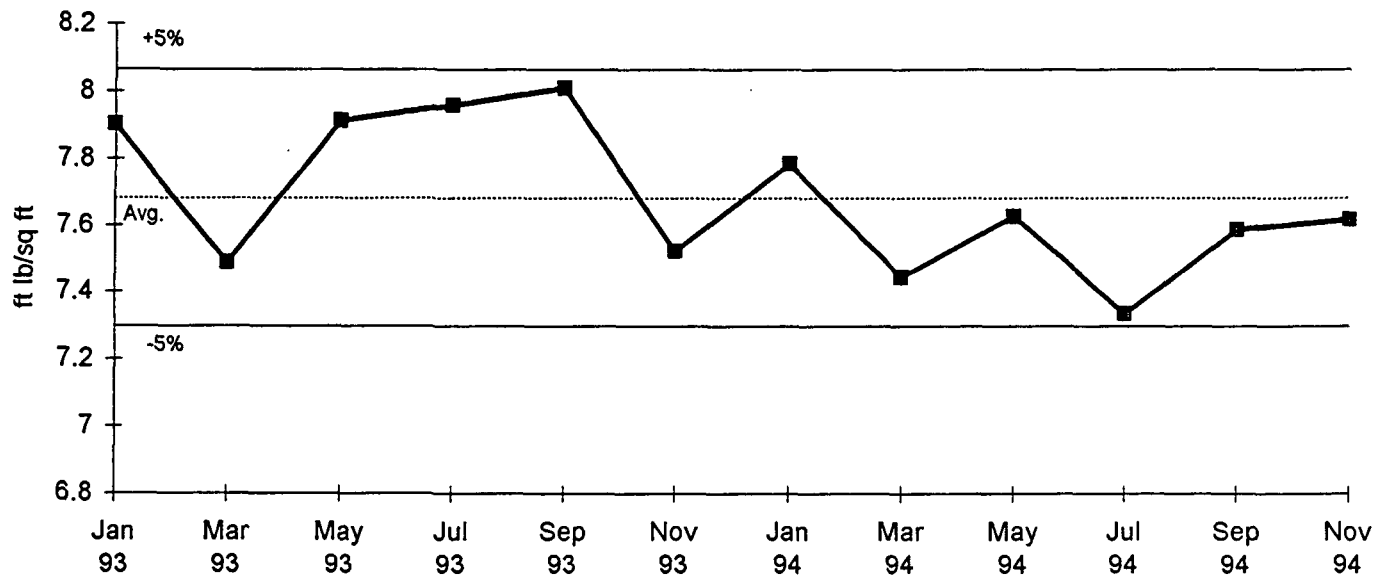
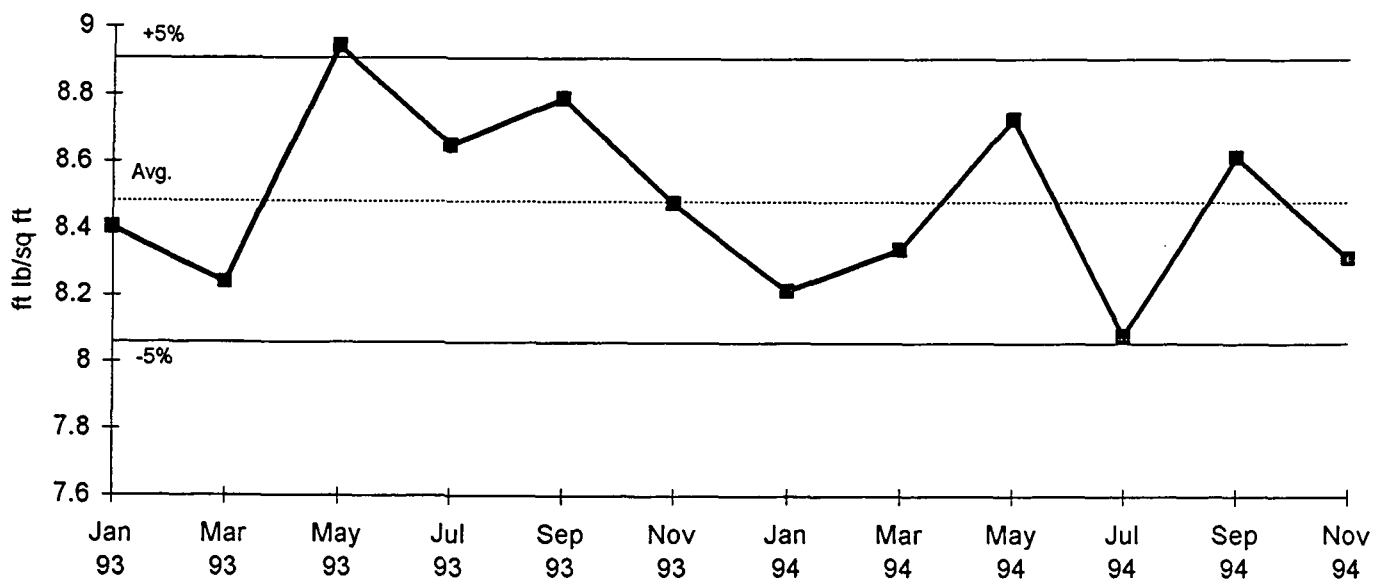
Kraft and Packaging Papers Division
For Periods Jul-Aug, Sep-Oct, Nov-Dec 1994

SUMMARY

Extensible
CD TEA
ft lb/sq ft

		JUL-AUG	SEP-OCT	NOV-DEC
50	Max	9.0	8.9	8.7
	Min	6.1	6.9	6.4
	Avg	7.3 (4)	7.6 (4)	7.6 (4)
	Stddev	1.2	.9	1.1
60	Max	9.6	9.9	9.2
	Min	7.3	7.4	7.7
	Avg	8.1 (4)	8.6 (4)	8.3 (4)
	Stddev	1.2	1.2	.6

Note: Stddev is Standard Deviation of current machine averages.
Avg is Current KPPD average.
Number of machines is indicated in ().

50# Extensible CD TEA**60# Extensible CD TEA**

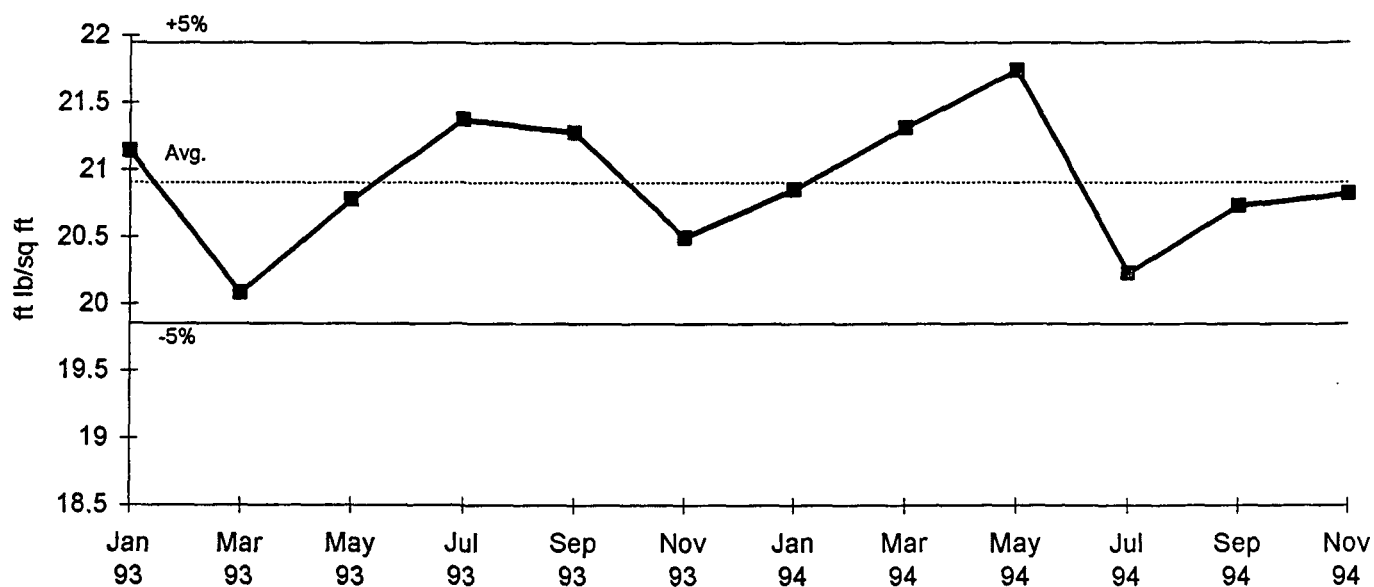
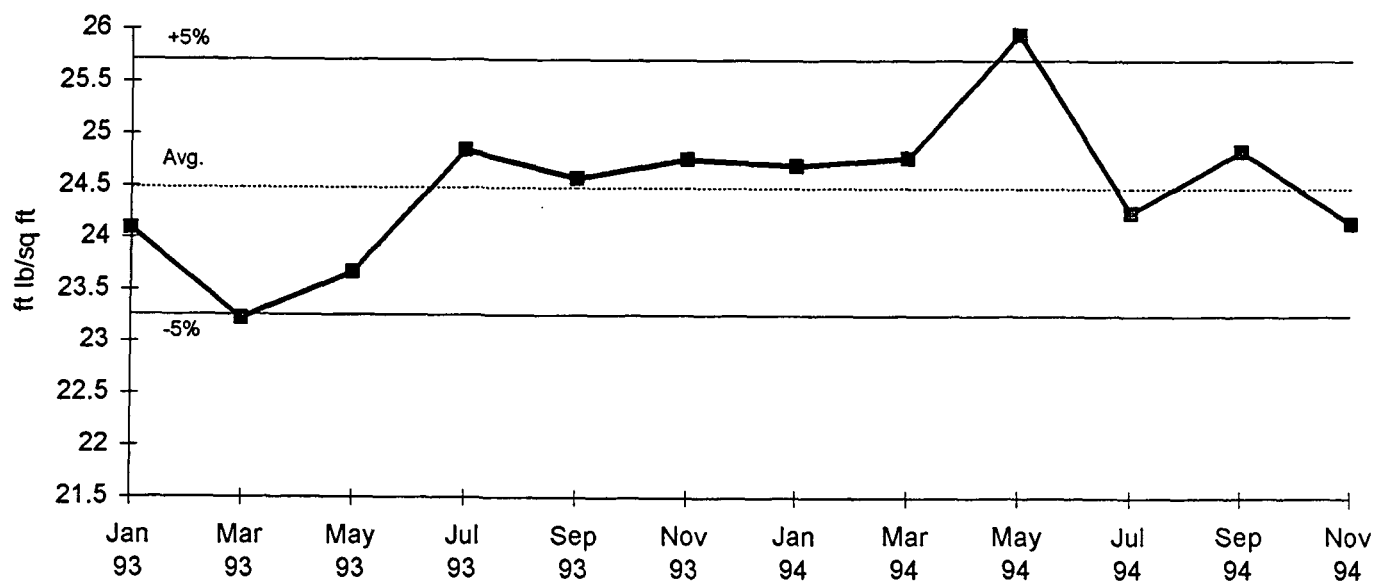
Kraft and Packaging Papers Division
For Periods Jul-Aug, Sep-Oct, Nov-Dec 1994

SUMMARY

Extensible
Total TEA
ft lb/sq ft

		JUL-AUG	SEP-OCT	NOV-DEC
50	Max	23.7	23.7	23.9
	Min	18.5	18.7	19.1
	Avg	20.2 (4)	20.7 (4)	20.8 (4)
	Stddev	2.4	2.3	2.3
60	Max	27.1	27.5	26.0
	Min	21.3	22.0	22.8
	Avg	24.3 (4)	24.9 (4)	24.2 (4)
	Stddev	2.6	2.3	1.4

Note: Stddev is Standard Deviation of current machine averages.
Avg is Current KPPD average.
Number of machines is indicated in ().

50# Extensible Total TEA**60# Extensible Total TEA**

INTRODUCTION

The continuous base-line study is a compilation of monthly averages of mill test data obtained routinely on five major grade weights of multiwall bag paper manufactured in the mills of KPPD members. Data are included for individuals machines which produced at least 50 tons of one of the following three major grade weights during a given period: 40, 50, and 60 lb flat; or any tonnage of 50 and 60 lb extensible.

The 40 lb extensible was not included in the report due to a minimum requirement of 3 machines reporting data to be added to this report.

Mill data are included for moisture content, basis weight, thickness, density, porosity, MD tear, and total tear for all grades; CD tensile and total tensile for flat grades; and MD stretch, CD stretch, CD TEA, and total TEA for extensible grades.

Participating mills are asked to report reel moisture content, basis weight, and moisture content corresponding to the basis weight measurement (if different from reel moisture). An adjusted basis weight is then calculated corresponding to a moisture content of 7.25% (AD basis). Only the reel moisture content and the adjusted basis weights are included in the report.

The type of tear tester (old or new style) used by each mill is given in Table XVII. For those mills using the new style tester, the reported tear values were adjusted to an estimated result for the old style tester using the following:

$$\text{Tear}_{\text{old}} = 1.06 \text{ Tear}_{\text{new}}$$

The type of tensile tester (T404 or T494) used by each mill is also given in Table XVII. For those mills using the tester described in T494, the reported tensile values were adjusted to an estimated T404 result using the following:

$$\text{Adjusted CD Tensile} = \text{Reported CD Tensile} * 1.02$$

$$\text{Adjusted Total Tensile} = \text{Reported Total Tensile} + \text{Adjustment to CD Tensile}$$

The above adjustments are based on data in Report One of Project 3679 (January 5, 1994).

PRESENTATION OF DATA

For the five major grade weights of multiwall bag paper referred to earlier, mill test averages for reel moisture content, adjusted basis weight, thickness, density, porosity, MD tear and total tear for all grades; CD tensile and total tensile for flat grades; and MD stretch, CD stretch, CD TEA, and total TEA for extensible grades are compiled in the following tables:

<u>Table Number</u>	<u>Description</u>
I-II-III	Mill Data on 40 lb Flat Multiwall Bag
IV-V-VI	Mill Data on 50 lb Flat Multiwall Bag
VII-VIII-IX	Mill Data on 60 lb Flat Multiwall Bag
X-XI-XII	Mill Data on 50 lb Extensible Multiwall Bag
XIII-XIV-XV	Mill Data on 60 lb Extensible Multiwall Bag

Data submitted by the participating mills relative to conditioning and testing environments are summarized in Table XVI. Data submitted relative to tear and tensile variables are summarized in Table XVII.

The procedures used in calculating adjusted basis weight, cumulative machine averages, machines indexes, and KPPD indexes are described in the appendix.

Table I

AVERAGES OF MILL QUALITY DATA FOR JUL-AUG 1994						Flat	40 #		
Code	Moist @ reel Percent			Adjusted Basis Weight *A Lbs/M Sq Ft			Porosity s/100 cc		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
B3		5.9			41.9			6.7	
C4	4.8	4.7	87.3	42.6	42.0	101.2	7.0	6.9	77.8
D7	5.0	4.9	90.9	41.5	41.4	98.6	3.5	3.6	38.9
E0	7.0	6.6	127.3	40.3	40.5	95.7	10.0	11.6	111.1
F2	5.5	5.5	100.0	42.2	42.1	100.2	10.2	9.3	113.3
G1	5.8	5.7	105.5	44.9	44.6	106.7	6.4	6.4	71.1
I3	5.7	5.7	103.6	41.3	41.3	98.1	6.6	6.7	73.3
P7	5.5	5.0	100.0	43.4	42.6	103.1	13.1	11.7	145.6
V1	5.2	5.2	94.5	41.3	41.4	98.1	14.0	13.7	155.6
X2	6.6	6.4	120.0	43.3	43.3	102.9	13.9	12.9	154.4
KPPD-F	5.7	5.5	103.6	42.4	42.1	100.7	9.1	9.0	101.1

Notes A and B are given in the appendix.

Table I (cont.)

AVERAGES OF MILL QUALITY DATA FOR JUL-AUG 1994 Flat 40 #

Code	Thickness mils			Apparent Density lbs/pt		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
B3		5.4			7.8	
C4	4.9	4.8	102.1	8.7	8.8	97.8
D7	4.9	5.0	102.1	8.5	8.3	95.5
E0	4.0	4.0	83.3	10.1	10.1	113.5
F2	5.5	5.1	114.6	7.7	8.2	86.5
G1	4.8	4.8	100.0	9.5	9.2	106.7
P7	4.8	4.7	100.0	9.1	9.1	102.2
V1	4.2	4.2	87.5	9.8	9.8	110.1
X2	4.9	5.0	102.1	8.8	8.7	98.9
KPPD-F	4.7	4.8	97.9	9.1	8.9	102.2

Note B is given in the appendix.

AVERAGES OF MILL QUALITY DATA FOR JUL-AUG 1994

Flat

40 #

Code	Adjusted MD Tear			Adjusted Total Tear		
	Cur	Cum	Ind	Cur	Cum	Ind
	Avg	Avg	*B	Avg	Avg	*B
B3		97.3			203.5	
C4	101.2	104.8	104.9	207.2	215.7	102.9
D7	88.0	93.5	91.2	187.6	194.7	93.2
E0	91.0	89.1	94.3	195.0	188.1	96.9
F2	97.7	95.6	101.2	190.4	191.9	94.6
G1	89.0	91.7	92.2	188.8	196.2	93.8
I3	104.8	104.1	108.6	211.8	211.7	105.2
P7	93.9	97.4	97.3	196.6	204.7	97.7
V1		97.2		198.0	198.6	98.4
X2	89.0	88.4	92.2	195.6	194.7	97.2
KPPD-F	94.1	96.5	97.5	197.1	201.3	97.9

Table I (cont.)

AVERAGES OF MILL QUALITY DATA FOR JUL-AUG 1994 Flat 40 #

Code	Adjusted CD Tensile lb/in			Adjusted Total Tensile lb/in		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
B3		17.3			44.8	
C4	14.3	15.0	82.7	44.7	43.9	96.1
D7	17.6	17.1	101.7	47.6	46.0	102.4
E0	17.7	18.2	102.3	50.7	49.3	109.0
F2	20.1	19.8	116.2	45.3	46.8	97.4
G1	17.6	17.4	101.7	48.5	49.2	104.3
I3	18.9	18.0	109.2	46.4	45.0	99.8
P7	19.0	17.7	109.8	46.5	44.6	100.0
V1	16.4	16.9	94.8	43.2	46.2	92.9
X2	16.0	17.0	92.5	47.5	51.2	102.2
KPPD-F	17.4	17.3	100.6	47.0	46.5	101.1

Note B is given in the appendix.

Table II

AVERAGES OF MILL QUALITY DATA FOR SEP-OCT 1994 Flat 40 #

Code	Moist @ reel Percent			Adjusted Basis Weight *A Lbs/M Sq Ft			Porosity s/100 cc		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
B3	6.4	5.9	114.3	41.5	41.9	98.6	5.5	6.5	60.4
C4	4.7	4.7	83.9	42.6	42.2	101.2	7.0	6.9	76.9
D7	4.6	4.9	82.1	41.4	41.3	98.3	6.0	3.8	65.9
E0	6.0	6.5	107.1	40.7	40.5	96.7	11.5	11.3	126.4
F2	5.5	5.5	98.2	41.8	42.0	99.3	9.6	9.3	105.5
G1	5.9	5.8	105.4	44.5	44.5	105.7	6.3	6.2	69.2
I3	5.7	5.7	101.8	41.1	41.3	97.6	5.5	6.4	60.4
P7	5.1	5.1	91.1	42.5	42.5	101.0	11.4	11.6	125.3
V1	5.1	5.2	91.1	41.6	41.5	98.8	14.5	13.9	159.3
X2	6.5	6.4	116.1	41.9	43.0	99.5	15.2	13.6	167.0
KPPD-F	5.6	5.6	100.0	42.0	42.1	99.8	9.8	9.1	107.7

Notes A and B are given in the appendix.

Table II (cont.)

AVERAGES OF MILL QUALITY DATA FOR SEP-OCT 1994 Flat 40 #

Code	Thickness mils			Apparent Density lbs/pt		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
B3	5.3	5.4	110.4	7.8	7.8	87.6
C4	4.9	4.8	102.1	8.7	8.8	97.8
D7	4.9	5.0	102.1	8.5	8.3	95.5
E0	4.1	4.1	85.4	9.9	10.0	111.2
F2	5.3	5.2	110.4	8.0	8.2	89.9
G1	4.7	4.8	97.9	9.6	9.3	107.9
P7	4.8	4.7	100.0	8.9	9.1	100.0
V1	4.4	4.2	91.7	9.6	9.8	107.9
X2	4.7	4.9	97.9	9.0	8.8	101.1
KPPD-F	4.7	4.8	97.9	9.0	8.9	101.1

Note B is given in the appendix.

Table II (cont.)

AVERAGES OF MILL QUALITY DATA FOR SEP-OCT 1994 Flat 40 #

Code	Adjusted MD Tear			Adjusted Total Tear		
	g/sheet			g/sheet		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
B3	95.4	97.1	99.3	199.3	202.9	99.5
C4	108.1	104.4	112.5	223.7	214.9	111.6
D7	90.1	93.2	93.8	191.9	196.6	95.8
E0	86.0	88.7	89.5	187.5	188.8	93.6
F2	97.4	96.1	101.4	192.6	192.1	96.1
G1	90.8	90.8	94.5	195.9	194.7	97.8
I3	105.9	104.9	110.2	213.2	212.9	106.4
P7	93.3	96.6	97.1	194.2	202.0	96.9
V1	91.5	96.0	95.2	187.5	196.0	93.6
X2	91.2	89.3	94.9	199.3	195.5	99.5
KPPD-F	94.5	96.1	98.3	197.4	200.4	98.5

Note B is given in the appendix.

Table II (cont.)

AVERAGES OF MILL QUALITY DATA FOR SEP-OCT 1994 Flat 40 #

Code	Adjusted CD Tensile lb/in			Adjusted Total Tensile lb/in		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
B3	16.0	17.2	91.4	43.1	44.9	92.5
C4	14.5	14.8	82.9	41.3	43.5	88.6
D7	16.3	16.9	93.1	46.4	45.8	99.6
E0	18.4	18.4	105.1	50.9	50.3	109.2
F2	20.5	20.0	117.1	46.7	46.7	100.2
G1	17.0	17.2	97.1	50.6	49.4	108.6
I3	18.7	18.0	106.9	46.2	45.0	99.1
P7	19.1	18.2	109.1	46.1	45.0	98.9
V1	16.8	17.0	96.0	46.5	46.3	99.8
X2	18.4	17.3	105.1	46.9	49.9	100.6
KPPD-F	17.9	17.5	102.3	47.0	46.6	100.9

Note B is given in the appendix.

Table III

AVERAGES OF MILL QUALITY DATA FOR NOV-DEC 1994

Flat

40 #

Code	Moist @ reel Percent			Adjusted Basis Weight *A Lbs/M Sq Ft			Porosity s/100 cc		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
B3	6.4	6.0	114.3	41.6	41.8	99.0	7.2	6.9	80.0
C4	4.4	4.7	78.6	41.9	42.1	99.8	7.0	6.5	77.8
D7	5.1	5.0	91.1	41.3	41.3	98.3	2.5	3.6	27.8
E0	5.9	6.4	105.4	40.8	40.6	97.1	13.0	11.6	144.4
F2	5.5	5.5	98.2	41.9	42.0	99.8	9.6	9.4	106.7
G1	5.8	5.8	103.6	44.5	44.5	106.0	5.3	6.1	58.9
I3	5.7	5.6	101.8	41.2	41.2	98.1	4.8	6.0	53.3
P7	5.5	5.2	98.2	43.4	42.8	103.3	10.8	11.3	120.0
V1	5.0	5.1	89.3	41.9	41.5	99.8	15.0	14.1	166.7
X2	6.8	6.6	121.4	42.3	42.9	100.7	11.6	13.2	128.9
KPPD-F	5.7	5.6	101.8	42.1	42.0	100.2	8.8	9.0	97.8

Notes A and B are given in the appendix.

Table III (cont.)

AVERAGES OF MILL QUALITY DATA FOR NOV-DEC 1994 Flat 40 #

Code	Thickness mils			Apparent Density lbs/pt		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
B3	5.2	5.3	108.3	8.0	7.8	89.9
C4	4.4	4.8	91.7	9.5	8.8	106.7
D7	5.1	5.0	106.3	8.1	8.3	91.0
E0	4.2	4.1	87.5	9.8	10.0	110.1
F2	5.2	5.2	108.3	8.1	8.1	91.0
G1	5.0	4.8	104.2	8.9	9.2	100.0
P7	4.8	4.7	100.0	9.1	9.1	102.2
V1	4.4	4.3	91.7	9.6	9.8	107.9
X2	5.0	4.9	104.2	8.5	8.7	95.5
KPPD-F	4.8	4.8	100.0	8.8	8.9	98.9

Note B is given in the appendix.

Table III (cont.)

AVERAGES OF MILL QUALITY DATA FOR NOV-DEC 1994 Flat 40 #

Code	Adjusted MD Tear g/sheet			Adjusted Total Tear g/sheet		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
B3	100.2	98.2	104.6	212.0	205.5	106.2
C4	104.9	105.2	109.5	221.5	217.2	110.9
D7	89.0	92.8	92.9	194.0	197.3	97.1
E0	87.0	88.4	90.8	188.5	188.7	94.4
F2	99.9	97.5	104.3	195.4	193.8	97.8
G1	91.8	90.1	95.8	194.9	192.3	97.6
I3	101.8	104.2	106.3	206.7	212.0	103.5
P7	94.3	96.0	98.4	199.5	200.8	99.9
V1	92.0	94.6	96.0	188.5	193.1	94.4
X2	91.7	89.5	95.7	187.1	194.7	93.7
KPPD-F	94.7	95.8	98.9	197.6	199.7	98.9

Note B is given in the appendix.

Table III (cont.)

AVERAGES OF MILL QUALITY DATA FOR NOV-DEC 1994 Flat 40 #

Code	Adjusted CD Tensile lb/in			Adjusted Total Tensile lb/in		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
B3	16.2	17.0	92.0	42.6	44.3	91.6
C4	14.5	14.8	82.4	44.9	43.6	96.6
D7	16.8	16.8	95.5	47.3	46.0	101.7
E0	18.9	18.5	107.4	50.9	50.4	109.5
F2	20.6	20.2	117.0	46.4	46.6	99.8
G1	17.4	17.4	98.9	47.2	48.8	101.5
I3	17.8	17.9	101.1	44.5	44.9	95.7
P7	18.0	18.3	102.3	44.9	45.1	96.6
V1	17.5	17.1	99.4	49.0	46.6	105.4
X2	19.3	17.5	109.7	45.3	48.7	97.4
KPPD-F	17.9	17.6	101.7	46.4	46.5	99.8

Note B is given in the appendix.

Table IV

AVERAGES OF MILL QUALITY DATA FOR JUL-AUG 1994 Flat 50 #

Code	Moist @ reel Percent			Adjusted Basis Weight *A Lbs/M Sq Ft			Porosity s/100 cc		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	5.3	5.0	94.6	53.6	53.1	102.1	14.0	16.1	141.4
B3	6.6	5.9	117.9	52.0	52.1	99.0	5.1	6.9	51.5
C4	4.5	4.7	80.4	52.8	52.7	100.6	5.0	5.5	50.5
D7	5.3	4.9	94.6	51.5	51.3	98.1	4.5	4.7	45.5
E0	6.1	6.1	108.9	50.9	50.8	97.0	11.0	10.3	111.1
F2	5.5	5.6	98.2	52.1	51.6	99.2	11.0	10.2	111.1
G1		5.7			54.6			6.4	
I3	5.7	5.8	101.8	51.3	51.3	97.7	7.4	8.0	74.7
K2	6.8	6.6	121.4	54.0	53.4	102.9	11.5	12.9	116.2
P7	5.5	5.2	98.2	52.3	52.0	99.6	11.1	13.4	112.1
S9	5.2	4.9	92.9	53.5	53.5	101.9	5.0	5.1	50.5
T8		6.3			53.2			14.1	
V1	5.0	5.0	89.3	52.7	52.2	100.4	16.0	14.7	161.6
X2	6.7	6.6	119.6	52.9	53.2	100.8	12.7	12.5	128.3
Y0	6.0	6.0	107.1	54.2	53.7	103.2	7.3	7.0	73.7
KPPD-F	5.7	5.6	101.8	52.6	52.5	100.2	9.4	9.9	94.9

Notes A and B are given in the appendix.

Table IV (cont.)

AVERAGES OF MILL QUALITY DATA FOR JUL-AUG 1994

Flat

50 #

Code	Thickness mils			Apparent Density lbs/pt		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	5.9	5.8	101.7	9.2	9.3	101.1
B3	6.7	6.7	115.5	7.8	7.8	85.7
C4	5.8	6.0	100.0	9.1	8.9	100.0
D7	5.9	5.9	101.7	8.8	8.7	96.7
E0	5.1	5.1	87.9	10.1	10.0	111.0
F2	6.3	5.7	108.6	8.3	9.0	91.2
G1		5.8			9.6	
P7	5.7	5.6	98.3	9.3	9.4	102.2
S9	6.3	6.3	108.6	8.6	8.5	94.5
T8		5.9			9.1	
V1	5.2	5.3	89.7	10.1	9.9	111.0
X2	5.9	5.9	101.7	9.1	9.0	100.0
Y0	6.1	6.0	105.2	8.8	8.9	96.7
KPPD-F	5.9	5.8	101.7	9.0	9.1	98.9

Note B is given in the appendix.

Table IV (cont.)

AVERAGES OF MILL QUALITY DATA FOR JUL-AUG 1994 Flat 50 #

Code	Adjusted MD Tear g/sheet			Adjusted Total Tear g/sheet		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	125.7	129.9	99.7	257.0	265.8	98.7
B3	127.2	125.8	100.9	270.3	261.7	103.8
C4	134.6	136.0	106.7	277.7	277.9	106.6
D7	120.3	122.7	95.4	248.0	256.1	95.2
E0	115.5	120.0	91.6	247.5	249.8	95.0
F2	120.7	120.9	95.7	240.5	243.9	92.4
G1		124.7			262.7	
I3	138.8	139.2	110.1	280.2	282.0	107.6
K2	119.8	121.2	95.0	253.0	253.4	97.2
P7	125.6	127.5	99.6	260.4	265.3	100.0
S9	126.1	129.1	100.0	255.5	261.9	98.1
T8		121.7			256.3	
V1	126.0	126.4	99.9	254.0	258.6	97.5
X2	117.1	116.6	92.9	256.0	260.4	98.3
Y0	131.2	130.9	104.0	266.5	255.7	102.3
KPPD-F	124.8	126.1	99.0	257.9	260.4	99.0

Note B is given in the appendix.

Table IV (cont.)

AVERAGES OF MILL QUALITY DATA FOR JUL-AUG 1994 Flat 50 #

Code	Adjusted CD Tensile lb/in			Adjusted Total Tensile lb/in		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	21.2	20.9	98.6	56.8	56.3	98.8
B3	19.4	21.1	90.2	51.0	54.6	88.7
C4	18.3	18.7	85.1	53.8	53.9	93.6
D7	22.0	21.5	102.3	57.8	57.4	100.5
E0	21.2	22.8	98.6	62.2	60.6	108.2
F2	25.4	24.7	118.1	59.4	59.3	103.3
G1		21.8			59.6	
I3	22.6	22.1	105.1	57.8	56.9	100.5
K2	19.5	20.7	90.7	54.2	55.5	94.3
P7	24.1	22.5	112.1	57.7	56.0	100.3
S9	19.7	19.4	91.6	55.8	54.6	97.0
T8		21.5			60.4	
V1	21.9	21.1	101.9	58.1	58.7	101.0
X2	20.6	20.6	95.8	58.7	61.5	102.1
Y0	22.0	22.3	102.3	58.7	58.5	102.1
KPPD-F	21.6	21.5	100.5	57.4	57.5	99.8

Note B is given in the appendix.

Table V

AVERAGES OF MILL QUALITY DATA FOR SEP-OCT 1994 Flat 50 #

Code	Moist @ reel Percent			Adjusted Basis Weight *A Lbs/M Sq Ft			Porosity s/100 cc		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	5.5	5.2	96.5	52.4	53.0	99.8	15.7	16.1	160.2
B3	6.5	6.0	114.0	52.1	52.0	99.2	7.3	7.0	74.5
C4		4.7			52.8			5.0	
D7	5.0	5.0	87.7	51.5	51.3	98.1	4.5	4.1	45.9
E0	6.1	6.1	107.0	50.9	50.8	97.0	10.5	10.3	107.1
F2	5.5	5.6	96.5	51.5	51.6	98.1	10.1	10.1	103.1
G1	6.2	5.9	108.8	53.8	54.9	102.5	5.2	5.8	53.1
I3	5.8	5.8	101.8	51.2	51.3	97.5	7.0	8.0	71.4
K2	6.5	6.6	114.0	54.5	53.7	103.8	11.5	12.5	117.3
P7	5.4	5.3	94.7	51.7	52.0	98.5	12.9	12.9	131.6
S9	5.0	4.9	87.7	53.9	53.5	102.7	5.5	5.2	56.1
T8		6.3			53.3			14.3	
V1	5.0	5.0	87.7	52.6	52.1	100.2	14.0	14.6	142.9
X2	6.6	6.6	115.8	51.3	52.9	97.7	12.6	12.6	128.6
Y0	6.2	6.0	108.8	54.6	54.0	104.0	6.2	6.8	63.3
KPPD-F	5.7	5.7	100.0	52.5	52.5	100.0	9.7	9.8	99.0

Notes A and B are given in the appendix.

Table V (cont.)

AVERAGES OF MILL QUALITY DATA FOR SEP-OCT 1994

Flat

50 #

Code	Thickness mils			Apparent Density lbs/pt		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	5.8	5.8	100.0	9.0	9.2	98.9
B3	6.6	6.7	113.8	7.9	7.8	86.8
C4		6.0			8.9	
D7	6.0	5.9	103.4	8.7	8.7	95.6
E0	5.1	5.1	87.9	10.1	10.0	111.0
F2	5.7	5.7	98.3	9.0	9.0	98.9
G1	5.9	5.8	101.7	9.1	9.5	100.0
P7	5.6	5.6	96.6	9.3	9.4	102.2
S9	6.4	6.3	110.3	8.5	8.5	93.4
T8		5.9			9.1	
V1	5.4	5.3	93.1	9.7	9.8	106.6
X2	5.8	5.9	100.0	8.9	9.0	97.8
Y0	6.2	6.1	106.9	8.8	8.9	96.7
KPPD-F	5.8	5.8	100.0	9.1	9.1	100.0

Note B is given in the appendix.

Table V (cont.)

AVERAGES OF MILL QUALITY DATA FOR SEP-OCT 1994 Flat 50 #

Code	Adjusted MD Tear g/sheet			Adjusted Total Tear g/sheet		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	125.7	128.5	99.9	253.8	261.8	97.7
B3	125.1	125.4	99.4	265.0	262.4	102.0
C4		136.3			279.0	
D7	116.6	122.6	92.7	246.5	256.5	94.9
E0	123.5	120.3	98.2	263.5	251.4	101.5
F2	122.6	121.1	97.5	243.5	243.5	93.8
G1	134.4	126.5	106.8	281.2	266.5	108.3
I3	139.4	139.6	110.8	280.2	281.9	107.9
K2	118.6	120.3	94.3	254.1	252.2	97.8
P7	121.1	126.4	96.3	252.3	263.1	97.2
S9	125.6	128.4	99.8	253.3	260.3	97.5
T8		119.5			250.9	
V1	121.0	124.6	96.2	246.5	254.4	94.9
X2	121.4	117.4	96.5	265.0	260.9	102.0
Y0	135.7	131.7	107.9	274.5	256.9	105.7
KPPD-F	125.1	125.8	99.4	258.9	259.7	99.7

Note B is given in the appendix.

Table V (cont.)

AVERAGES OF MILL QUALITY DATA FOR SEP-OCT 1994

Flat

50 #

Code	Adjusted CD Tensile lb/in			Adjusted Total Tensile lb/in		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	21.3	21.0	98.6	55.9	56.3	97.4
B3	20.2	21.1	93.5	54.7	54.8	95.3
C4		18.6			53.8	
D7	21.7	21.4	100.5	60.2	57.2	104.9
E0	21.9	22.7	101.4	57.4	60.1	100.0
F2	25.7	24.9	119.0	58.7	59.1	102.3
G1	20.1	21.0	93.1	56.1	58.2	97.7
I3	23.1	22.3	106.9	58.7	57.1	102.3
K2	19.4	20.4	89.8	54.4	54.9	94.8
P7	24.1	22.8	111.6	56.9	56.1	99.1
S9	20.0	19.6	92.6	56.8	55.1	99.0
T8		21.5			61.1	
V1	21.2	21.3	98.1	58.8	58.8	102.4
X2	22.0	20.7	101.9	55.8	60.4	97.2
Y0	22.1	22.3	102.3	57.4	58.2	100.0
KPPD-F	21.9	21.6	101.4	57.2	57.4	99.7

Note B is given in the appendix.

Table VI

AVERAGES OF MILL QUALITY DATA FOR NOV-DEC 1994

Flat

50 #

Code	Moist @ reel Percent			Adjusted Basis Weight *A Lbs/M Sq Ft			Porosity s/100 cc		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	5.4	5.3	94.7	52.7	53.0	100.2	17.2	16.2	173.7
B3	6.2	6.1	108.8	51.9	52.0	98.7	8.4	7.2	84.8
B4	5.9	5.9	103.5	55.1	55.1	104.8	22.2	22.2	224.2
C4	4.8	4.7	84.2	53.4	52.9	101.5	5.0	5.2	50.5
D7	5.5	5.1	96.5	51.3	51.3	97.5	4.0	4.1	40.4
E0	6.3	6.1	110.5	50.9	50.8	96.8	11.0	10.7	111.1
F2	5.7	5.6	100.0	51.5	51.7	97.9	10.5	10.1	106.1
G1	5.9	5.9	103.5	53.7	54.8	102.1	6.0	5.8	60.6
I3	5.7	5.7	100.0	51.2	51.3	97.3	6.6	7.7	66.7
K2	6.6	6.6	115.8	53.7	53.9	102.1	12.3	12.6	124.2
P7	5.5	5.4	96.5	52.0	52.1	98.9	13.3	12.5	134.3
S9	4.9	4.9	86.0	53.9	53.6	102.5	4.5	5.1	45.5
T8		6.3			53.3			14.3	
V1	4.8	5.0	84.2	52.5	52.3	99.8	15.5	14.9	156.6
X2	6.6	6.6	115.8	52.2	52.8	99.2	12.1	12.4	122.2
Y0	6.2	6.1	108.8	55.9	54.3	106.3	8.3	6.9	83.8
KPPD-F	5.7	5.7	100.0	52.7	52.6	100.2	10.3	9.9	104.0

Notes A and B are given in the appendix.

Table VI (cont.)

AVERAGES OF MILL QUALITY DATA FOR NOV-DEC 1994

Flat

50 #

Code	Thickness mils			Apparent Density lbs/pt		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	5.7	5.7	98.3	9.3	9.2	102.2
B3	6.5	6.6	112.1	8.0	7.8	87.9
B4	5.8	5.8	100.0	9.6	9.6	105.5
C4	6.0	6.0	103.4	8.9	8.9	97.8
D7	6.1	6.0	105.2	8.4	8.6	92.3
E0	5.2	5.1	89.7	9.8	9.9	107.7
F2	5.6	5.7	96.6	9.2	9.1	101.1
G1	5.9	5.8	101.7	9.2	9.4	101.1
P7	5.6	5.6	96.6	9.4	9.4	103.3
S9	6.4	6.3	110.3	8.5	8.5	93.4
T8		5.9			9.1	
V1	5.3	5.3	91.4	10.0	9.9	109.9
X2	5.8	5.9	100.0	9.0	9.0	98.9
Y0	6.3	6.1	108.6	8.9	8.9	97.8
KPPD-F	5.8	5.8	100.0	9.1	9.1	100.0

Note B is given in the appendix.

Table VI (cont.)

AVERAGES OF MILL QUALITY DATA FOR NOV-DEC 1994

Flat

50 #

Code	Adjusted MD Tear g/sheet			Adjusted Total Tear g/sheet		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	125.5	127.6	99.9	256.8	259.5	99.1
B3	129.3	125.6	102.9	278.8	264.5	107.6
B4	128.2	128.2	102.1	253.7	253.7	97.9
C4	137.3	138.0	109.3	283.6	283.2	109.5
D7	119.3	122.3	95.0	251.2	256.3	97.0
E0	125.5	120.8	99.9	260.0	253.6	100.3
F2	122.4	121.2	97.5	242.6	243.2	93.6
G1	123.5	125.7	98.3	261.9	265.0	101.1
I3	132.0	138.1	105.1	268.6	279.4	103.7
K2	120.3	118.7	95.8	257.4	251.1	99.3
P7	118.9	124.8	94.7	255.3	261.0	98.5
S9	130.4	128.6	103.8	262.4	260.6	101.3
T8		119.5			250.9	
V1	126.5	124.7	100.7	254.0	253.5	98.0
X2	119.3	117.8	95.0	243.8	257.4	94.1
Y0	135.4	131.7	107.8	271.8	256.2	104.9
KPPD-F	126.2	125.6	100.5	259.6	259.1	100.2

Note B is given in the appendix.

Table VI (cont.)

AVERAGES OF MILL QUALITY DATA FOR NOV-DEC 1994 Flat 50 #

Code	Adjusted CD Tensile lb/in			Adjusted Total Tensile lb/in		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	20.8	21.0	96.3	55.2	56.0	96.3
B3	19.1	20.8	88.4	53.6	54.8	93.5
B4	23.0	23.0	106.5	58.0	58.0	101.2
C4	18.7	18.5	86.6	56.2	54.3	98.1
D7	21.6	21.4	100.0	60.1	57.7	104.9
E0	23.5	22.8	108.8	59.0	60.1	103.0
F2	26.1	25.2	120.8	59.6	59.2	104.0
G1	20.6	20.7	95.4	57.7	57.4	100.7
I3	21.6	22.2	100.0	56.3	57.1	98.3
K2	19.3	20.0	89.4	54.2	54.9	94.6
P7	22.1	22.8	102.3	56.0	56.1	97.7
S9	19.8	19.6	91.7	55.1	55.3	96.2
T8		21.5			61.1	
V1	21.4	21.3	99.1	59.4	58.7	103.7
X2	23.5	21.3	108.8	56.3	59.4	98.3
Y0	22.5	22.3	104.2	58.6	58.2	102.3
KPPD-F	21.6	21.6	100.0	57.1	57.3	99.7

Note B is given in the appendix.

Table VII

AVERAGES OF MILL QUALITY DATA FOR JUL-AUG 1994 Flat 60 #

Code	Moist @ reel Percent			Adjusted Basis Weight *A Lbs/M Sq Ft			Porosity s/100 cc		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	5.5	5.1	94.8	63.0	62.7	101.3	14.2	15.0	136.5
B3	6.5	6.0	112.1	62.9	61.3	101.1	9.6	7.7	92.3
C4		5.0			64.1			7.0	
D7	5.2	4.8	89.7	61.2	61.0	98.4	6.0	5.6	57.7
E0	6.4	6.6	110.3	60.7	60.2	97.6	9.5	10.3	91.3
F2	6.0	6.1	103.4	62.1	61.4	99.8	10.7	10.3	102.9
I3	5.7	5.7	98.3	61.2	61.3	98.4	8.0	8.4	76.9
K2	6.8	6.7	117.2	63.9	63.1	102.7	11.6	11.8	111.5
P7		5.0			61.3			16.2	
S9	5.4	5.0	93.1	63.8	63.9	102.6	7.0	6.0	67.3
T8		6.5			61.8			13.1	
V1	4.8	4.8	82.8	63.3	63.0	101.8	15.0	14.6	144.2
W5		7.0			61.3			11.0	
X2	6.6	6.6	113.8	61.9	62.9	99.5	13.4	12.2	128.8
Y0	6.0	6.1	103.4	64.0	63.0	102.9	7.7	7.5	74.0
KPPD-F	5.9	5.8	101.7	62.6	62.2	100.6	10.2	10.4	98.1

Notes A and B are given in the appendix.

Table VII (cont.)

AVERAGES OF MILL QUALITY DATA FOR JUL-AUG 1994

Flat

60 #

Code	Thickness mils			Apparent Density lbs/pt		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	6.7	6.6	98.5	9.4	9.5	102.2
B3	7.9	7.9	116.2	8.0	7.9	87.0
D7	6.8	7.1	100.0	9.0	8.7	97.8
E0	6.1	6.2	89.7	10.0	9.8	108.7
F2	7.3	6.8	107.4	8.6	9.1	93.5
S9	6.8	6.9	100.0	9.5	9.3	103.3
T8		6.9			9.0	
V1	6.1	6.2	89.7	10.4	10.1	113.0
X2	6.7	6.9	98.5	9.3	9.1	101.1
Y0	7.0	7.0	102.9	9.1	9.1	98.9
KPPD-F	6.8	6.8	100.0	9.3	9.2	101.1

Note B is given in the appendix.

Table VII (cont.)

AVERAGES OF MILL QUALITY DATA FOR JUL-AUG 1994

Flat

60 #

Code	Adjusted MD Tear			Adjusted Total Tear		
	Cur	Cum	Ind	Cur	Cum	Ind
	Avg	Avg	*B	Avg	Avg	*B
A8	159.0	163.4	102.0	326.1	334.6	101.1
B3	154.8	156.4	99.3	326.5	322.6	101.2
C4		155.8			320.1	
D7	144.2	152.5	92.5	294.7	321.2	91.3
E0	145.5	151.8	93.3	315.0	316.9	97.6
F2	151.0	150.8	96.9	300.8	305.5	93.2
I3	170.9	171.5	109.6	342.2	347.6	106.0
K2	152.8	153.9	98.0	323.9	324.0	100.4
P7		159.6			339.2	
S9	154.2	157.6	98.9	313.8	313.6	97.2
T8		153.5			320.6	
V1	150.0	154.7	96.2	311.0	320.8	96.4
W5		145.0			293.0	
X2	137.8	142.9	88.4	305.3	319.3	94.6
Y0	159.0	159.6	102.0	326.1	325.6	101.1
KPPD-F	153.1	155.9	98.2	317.8	322.7	98.5

Note B is given in the appendix.

Table VII (cont.)

AVERAGES OF MILL QUALITY DATA FOR JUL-AUG 1994 Flat 60 #

Code	Adjusted CD Tensile lb/in			Adjusted Total Tensile lb/in		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	25.3	25.1	100.0	65.7	67.4	95.6
B3	23.7	25.0	93.7	64.7	64.0	94.2
C4		22.2			64.0	
D7	26.3	25.8	104.0	69.5	68.9	101.2
E0	24.8	25.8	98.0	73.3	71.8	106.7
F2	29.4	28.5	116.2	70.7	70.6	102.9
I3	27.7	26.2	109.5	71.0	68.0	103.3
K2	22.8	23.7	90.1	63.0	63.5	91.7
P7		25.4			66.3	
S9	24.4	23.8	96.4	67.7	66.2	98.5
T8		25.2			69.4	
V1	24.7	24.9	97.6	71.1	72.2	103.5
W5		26.0			65.5	
X2	25.6	24.2	101.2	73.4	74.1	106.8
Y0	25.1	25.9	99.2	69.5	69.2	101.2
KPPD-F	25.5	25.3	100.8	69.1	68.7	100.6

Note B is given in the appendix.

Table VIII

AVERAGES OF MILL QUALITY DATA FOR SEP-OCT 1994 Flat 60 #

Code	Moist @ reel Percent			Adjusted Basis Weight *A Lbs/M Sq Ft			Porosity s/100 cc		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	5.5	5.2	94.8	62.6	62.6	100.5	14.2	14.3	137.9
B3	6.3	6.1	108.6	62.3	62.4	100.0	9.5	8.3	92.2
C4		5.0			64.1			7.0	
D7	5.2	4.9	89.7	60.9	60.9	97.8	4.5	5.0	43.7
E0	6.4	6.6	110.3	60.6	60.3	97.3	10.0	10.1	97.1
F2	6.1	6.1	105.2	61.3	61.4	98.4	10.2	10.2	99.0
I3	5.7	5.7	98.3	61.2	61.3	98.2	7.0	8.4	68.0
K2	6.5	6.6	112.1	64.1	63.4	102.9	11.2	11.8	108.7
P7	5.1	5.0	87.9	61.6	61.5	98.9	13.8	15.0	134.0
S9	5.1	5.0	87.9	64.2	63.9	103.0	7.0	6.3	68.0
T8	7.1	6.7	122.4	62.2	61.7	99.8	15.5	13.9	150.5
V1	4.8	4.8	82.8	62.6	62.9	100.5	14.5	14.7	140.8
W5	6.0	6.6	103.4	61.1	61.2	98.1	9.0	10.3	87.4
X2	6.4	6.6	110.3	61.1	62.6	98.1	13.7	12.6	133.0
Y0	6.2	6.1	106.9	64.1	63.3	102.9	6.8	6.8	66.0
KPPD-F	5.8	5.8	100.0	62.2	62.3	99.8	10.2	10.3	99.0

Notes A and B are given in the appendix.

Table VIII (cont.)

AVERAGES OF MILL QUALITY DATA FOR SEP-OCT 1994

Flat

60 #

Code	Thickness mils			Apparent Density lbs/pt		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	6.8	6.7	100.0	9.3	9.4	101.1
B3	7.8	7.9	114.7	8.0	7.9	87.0
D7	7.2	7.1	105.9	8.5	8.6	92.4
E0	6.2	6.2	91.2	9.9	9.8	107.6
F2	6.8	6.8	100.0	9.1	9.1	98.9
P7	6.4	6.4	94.1	9.6	9.6	104.3
S9	6.9	6.9	101.5	9.3	9.3	101.1
T8	7.2	6.9	105.9	8.6	8.9	93.5
V1	6.1	6.2	89.7	10.3	10.1	112.0
W5	6.7	6.7	98.5	9.1	9.1	98.9
X2	6.7	6.9	98.5	9.1	9.1	98.9
Y0	7.2	7.0	105.9	9.0	9.0	97.8
KPPD-F	6.8	6.8	100.0	9.2	9.2	100.0

Note B is given in the appendix.

Table VIII (cont.)

AVERAGES OF MILL QUALITY DATA FOR SEP-OCT 1994 Flat 60 #

Code	Adjusted MD Tear g/sheet			Adjusted Total Tear g/sheet		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	152.8	162.1	98.5	319.7	333.5	99.5
B3	151.6	155.8	97.7	319.1	323.3	99.3
C4		155.8			320.1	
D7	156.4	152.3	100.8	322.8	321.2	100.5
E0	145.5	150.1	93.8	313.0	315.5	97.4
F2	152.5	151.5	98.3	301.2	304.9	93.7
I3	165.2	170.2	106.5	338.3	345.5	105.3
K2	153.3	152.7	98.8	327.7	322.6	102.0
P7	146.3	153.0	94.3	312.0	325.6	97.1
S9	156.4	157.7	100.8	319.6	313.8	99.5
T8	138.9	148.0	89.6	316.9	310.9	98.6
V1	149.5	152.0	96.4	300.0	313.6	93.4
W5	152.0	147.3	98.0	349.0	311.7	108.6
X2	146.3	143.3	94.3	305.3	316.7	95.0
Y0	164.9	161.2	106.3	334.8	328.4	104.2
KPPD-F	153.1	155.1	98.7	319.2	321.3	99.3

Note B is given in the appendix.

Table VIII (cont.)

AVERAGES OF MILL QUALITY DATA FOR SEP-OCT 1994

Flat

60 #

Code	Adjusted CD Tensile lb/in			Adjusted Total Tensile lb/in		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	24.9	25.1	98.0	66.7	67.1	97.2
B3	23.6	24.6	92.9	65.2	63.9	95.0
C4		22.2			64.0	
D7	24.5	25.1	96.5	65.1	67.7	94.9
E0	26.0	25.9	102.4	74.0	72.7	107.9
F2	30.2	28.9	118.9	69.4	70.6	101.2
I3	26.5	26.3	104.3	70.5	68.6	102.8
K2	22.8	23.4	89.8	62.1	63.2	90.5
P7	29.0	27.2	114.2	69.5	67.9	101.3
S9	23.9	23.7	94.1	67.3	66.1	98.1
T8	25.4	25.6	100.0	72.3	69.8	105.4
V1	26.6	25.3	104.7	74.7	72.8	108.9
W5	26.5	26.2	104.3	68.5	66.5	99.9
X2	26.1	24.4	102.8	67.8	72.9	98.8
Y0	25.9	26.0	102.0	68.1	68.9	99.3
KPPD-F	25.8	25.4	101.6	68.6	68.6	100.0

Note B is given in the appendix.

Table IX

AVERAGES OF MILL QUALITY DATA FOR NOV-DEC 1994 Flat 60 #

Code	Moist @ reel Percent			Adjusted Basis Weight *A Lbs/M Sq Ft			Porosity s/100 cc		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	5.6	5.3	94.9	62.7	62.7	100.5	15.1	14.2	145.2
B3		6.1			62.3			8.7	
B4	6.5	6.5	110.2	65.5	65.5	105.0	19.3	19.3	185.6
D7	5.6	5.0	94.9	61.7	61.0	98.9	6.0	5.1	57.7
E0	6.2	6.5	105.1	60.5	60.3	97.0	9.0	10.2	86.5
F2	6.1	6.1	103.4	61.5	61.5	98.6	10.0	10.2	96.2
I3	5.7	5.7	96.6	61.6	61.3	98.7	6.4	7.7	61.5
K2	6.7	6.6	113.6	63.5	63.5	101.8	11.3	12.0	108.7
P7		5.0			61.5			15.0	
S9	4.8	5.0	81.4	63.8	63.9	102.2	5.5	6.3	52.9
T8	7.0	6.7	118.6	62.6	61.9	100.3	13.8	13.9	132.7
V1	4.7	4.8	79.7	63.3	63.0	101.4	14.5	14.8	139.4
W5		6.5			61.0			10.5	
X2	6.5	6.6	110.2	62.0	62.5	99.4	11.5	12.5	110.6
Y0	6.4	6.2	108.5	65.3	63.8	104.6	7.6	6.8	73.1
KPPD-F	5.9	5.9	100.0	62.8	62.4	100.6	10.5	10.4	101.0

Notes A and B are given in the appendix.

Table IX (cont.)

AVERAGES OF MILL QUALITY DATA FOR NOV-DEC 1994

Flat

60 #

Code	Thickness mils			Apparent Density lbs/pt		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	6.7	6.7	98.5	9.4	9.4	101.1
B3		7.9			7.9	
B4	6.8	6.8	100.0	9.7	9.7	104.3
D7	7.0	7.1	102.9	8.8	8.6	94.6
E0	6.4	6.2	94.1	9.5	9.7	102.2
F2	6.7	6.8	98.5	9.2	9.1	98.9
P7		6.4			9.6	
S9	6.5	6.8	95.6	9.8	9.4	105.4
T8	7.1	7.0	104.4	8.8	8.9	94.6
V1	6.1	6.2	89.7	10.4	10.2	111.8
W5		6.7			9.1	
X2	6.9	6.9	101.5	9.1	9.1	97.8
Y0	7.4	7.1	108.8	8.9	9.0	95.7
KPPD-F	6.7	6.8	98.5	9.4	9.3	101.1

Note B is given in the appendix.

Table IX (cont.)

AVERAGES OF MILL QUALITY DATA FOR NOV-DEC 1994 Flat 60 #

Code	Adjusted MD Tear g/sheet			Adjusted Total Tear g/sheet		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	154.8	160.1	100.1	321.7	329.8	100.4
B3		155.0			323.5	
B4	150.5	150.5	97.3	313.7	313.7	97.9
D7	152.6	152.4	98.7	320.1	321.1	99.9
E0	161.5	151.3	104.5	344.5	319.8	107.5
F2	153.3	151.5	99.2	304.4	303.7	95.0
I3	159.0	168.7	102.8	331.2	343.6	103.4
K2	151.6	150.7	98.1	324.6	320.0	101.3
P7		153.0			325.6	
S9	156.9	157.3	101.5	320.1	313.9	99.9
T8	148.4	148.1	96.0	314.8	311.6	98.3
V1	146.5	151.5	94.8	305.5	311.8	95.3
W5		150.5			324.0	
X2	144.7	143.3	93.6	303.2	312.7	94.6
Y0	170.6	161.7	110.3	344.0	328.1	107.4
KPPD-F	154.7	154.6	100.1	321.3	320.4	100.3

Note B is given in the appendix.

Table IX (cont.)

AVERAGES OF MILL QUALITY DATA FOR NOV-DEC 1994

Flat

60 #

Code	Adjusted CD Tensile lb/in			Adjusted Total Tensile lb/in		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	24.6	25.0	96.5	66.1	66.8	96.1
B3		24.5			63.4	
B4	24.9	24.9	97.6	71.3	71.3	103.6
D7	24.4	25.1	95.7	69.2	67.9	100.6
E0	27.0	26.1	105.9	73.5	73.1	106.8
F2	30.7	29.3	120.4	71.8	70.7	104.4
I3	24.4	26.1	95.7	69.9	68.8	101.6
K2	22.5	23.2	88.2	62.5	63.3	90.8
P7		27.2			67.9	
S9	23.8	23.8	93.3	66.9	66.7	97.2
T8	25.0	25.5	98.0	69.9	69.9	101.6
V1	25.5	25.4	100.0	74.2	72.6	107.8
W5		26.5			67.5	
X2	26.1	24.9	102.4	68.7	71.7	99.9
Y0	26.1	26.1	102.4	67.1	68.5	97.5
KPPD-F	25.5	25.5	100.0	69.1	68.8	100.4

Note B is given in the appendix.

Table X

AVERAGES OF MILL QUALITY DATA FOR JUL-AUG 1994 Extensible 50 #

Code	Moist @ reel Percent			Adjusted Basis Weight *A Lbs/M Sq Ft			Porosity s/100 cc		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	4.9	4.1	102.1	52.7	52.4	101.2	15.2	18.2	120.6
I3		5.0			51.0			9.7	
V1	4.2	4.1	87.5	52.8	52.8	101.3	17.0	16.0	134.9
X2	6.2	6.4	129.2	52.9	53.2	101.5	17.5	14.9	138.9
Z6	5.0	4.6	104.2	50.6	50.7	97.1	3.0	3.1	23.8
KPPD-E	5.0	4.8	104.2	52.0	52.1	99.8	11.8	12.6	93.7

Notes A and B are given in the appendix.

Table X (cont.)

AVERAGES OF MILL QUALITY DATA FOR JUL-AUG 1994 Extensible 50 #

Code	Thickness mils			Apparent Density lbs/pt		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	5.5	5.4	88.7	9.7	9.8	109.0
V1	5.0	5.0	80.6	10.6	10.5	119.1
X2	5.4	5.5	87.1	9.8	9.8	110.1
Z6	8.5	8.3	137.1	6.0	6.1	67.4
KPPD-E	6.4	6.2	103.2	8.6	8.9	96.6

Note B is given in the appendix.

Table X (cont.)

AVERAGES OF MILL QUALITY DATA FOR JUL-AUG 1994 Extensible 50 #

Code	Adjusted MD Tear			Adjusted Total Tear		
	g/sheet			g/sheet		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	127.4	128.3	102.1	281.7	288.1	101.4
I3		128.5			275.0	
V1	121.0	116.9	97.0	267.0	261.6	96.1
X2	123.0	117.4	98.6	282.0	282.2	101.5
Z6	126.0	133.1	101.0	260.0	277.7	93.6
KPPD-E	125.1	124.8	100.2	272.1	277.7	98.0

Note B is given in the appendix.

Table X (cont.)

AVERAGES OF MILL QUALITY DATA FOR JUL-AUG 1994 Extensible 50 #

Code	MD Stretch Percent			CD Stretch Percent		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	6.3	6.2	94.0	5.1	5.2	98.1
I3		5.6			4.7	
V1	6.4	6.6	95.5	6.0	6.0	115.4
X2	6.0	6.1	89.6	5.1	5.3	98.1
Z6	8.5	8.2	126.9	4.5	4.6	86.5
KPPD-E	7.0	6.7	104.5	5.0	5.2	96.2

Note B is given in the appendix.

Table X (cont.)

AVERAGES OF MILL QUALITY DATA FOR JUL-AUG 1994

Extensible

50 #

Code	CD TEA			Total TEA		
	ft lb/sq ft		Ind	ft lb/sq ft		Ind
	Cur	Cum		Cur	Cum	
	Avg	Avg	*B	Avg	Avg	*B
A8	7.3	7.4	96.1	19.4	19.7	92.4
I3		8.0			19.5	
V1	9.0	8.9	118.4	23.7	24.0	112.9
X2	8.2	7.9	107.9	22.1	22.0	105.2
Z6	6.1	6.6	80.3	18.5	19.4	88.1
KPPD-E	7.3	7.6	96.1	20.2	21.0	96.2

Note B is given in the appendix.

Table XI

AVERAGES OF MILL QUALITY DATA FOR SEP-OCT 1994 Extensible 50 #

Code	Moist @ reel Percent			Adjusted Basis Weight *A Lbs/M Sq Ft			Porosity s/100 cc		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	4.9	4.3	102.1	52.4	52.4	100.4	16.2	18.1	126.6
I3		5.0			51.5			9.0	
V1	4.1	4.1	85.4	53.0	52.8	101.5	16.5	16.4	128.9
X2	5.8	6.3	120.8	52.5	53.3	100.6	17.9	15.4	139.8
Z6	5.0	4.7	104.2	50.6	50.7	96.9	3.0	3.1	23.4
KPPD-E	4.8	4.8	100.0	52.1	52.2	99.8	12.7	12.8	99.2

Notes A and B are given in the appendix.

Table XI (cont.)

AVERAGES OF MILL QUALITY DATA FOR SEP-OCT 1994 Extensible 50 #

Code	Thickness mils			Apparent Density lbs/pt		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	5.5	5.4	90.2	9.6	9.7	107.9
V1	5.0	5.0	82.0	10.6	10.5	119.1
X2	5.5	5.5	90.2	9.6	9.8	107.9
Z6	8.0	8.2	131.1	6.4	6.2	71.9
KPPD-E	6.1	6.1	100.0	8.9	8.9	100.0

Note B is given in the appendix.

Table XI (cont.)

AVERAGES OF MILL QUALITY DATA FOR SEP-OCT 1994 Extensible 50 #

Code	Adjusted MD Tear g/sheet			Adjusted Total Tear g/sheet		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	120.5	126.0	97.4	264.6	282.9	96.5
I3		124.4			266.2	
V1	112.0	114.6	90.5	255.5	257.6	93.2
X2	130.4	118.9	105.4	274.5	281.0	100.1
Z6	123.5	132.4	99.8	259.5	275.6	94.6
KPPD-E	120.3	123.7	97.3	262.0	274.2	95.6

Note B is given in the appendix.

Table XI (cont.)

AVERAGES OF MILL QUALITY DATA FOR SEP-OCT 1994 Extensible 50 #

Code	MD Stretch Percent			CD Stretch Percent		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	6.0	6.1	89.6	5.0	5.2	96.2
I3		5.4			4.5	
V1	6.0	6.4	89.6	6.5	6.1	125.0
X2	6.0	6.0	89.6	4.4	5.1	84.6
Z6	8.1	8.2	120.9	4.8	4.6	92.3
KPPD-E	6.6	6.7	98.5	5.2	5.2	100.0

Note B is given in the appendix.

Table XI (cont.)

AVERAGES OF MILL QUALITY DATA FOR SEP-OCT 1994 Extensible 50 #

Code	CD TEA			Total TEA		
	ft	lb/sq	ft	ft	lb/sq	ft
	Cur	Cum	Ind	Cur	Cum	Ind
	Avg	Avg	*B	Avg	Avg	*B
A8	7.3	7.4	96.1	18.7	19.6	89.5
I3		7.6			18.9	
V1	8.9	8.9	117.1	23.7	24.1	113.4
X2	7.1	7.7	93.4	19.0	21.5	90.9
Z6	6.9	6.6	90.8	20.7	19.5	99.0
KPPD-E	7.6	7.6	100.0	20.7	20.9	99.0

Note B is given in the appendix.

Table XII

AVERAGES OF MILL QUALITY DATA FOR NOV-DEC 1994 Extensible 50 #

Code	Moist @ reel Percent			Adjusted Basis Weight *A Lbs/M Sq Ft			Porosity s/100 cc		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	4.4	4.4	91.7	52.4	52.4	100.4	16.1	17.7	126.8
I3		5.0			51.3			7.0	
V1	4.0	4.1	83.3	53.3	52.9	102.1	17.0	16.7	133.9
X2	6.0	6.3	125.0	52.5	53.2	100.6	18.7	15.9	147.2
Z6	4.9	4.7	102.1	50.8	50.7	97.3	3.0	3.1	23.6
KPPD-E	4.7	4.8	97.9	52.2	52.2	100.0	12.5	12.7	98.4

Notes A and B are given in the appendix.

Table XII (cont.)

AVERAGES OF MILL QUALITY DATA FOR NOV-DEC 1994 Extensible 50 #

Code	Thickness mils			Apparent Density lbs/pt		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	5.3	5.4	88.3	9.9	9.7	110.0
V1	5.1	5.0	85.0	10.6	10.5	117.8
X2	5.4	5.5	90.0	9.7	9.8	107.8
Z6		8.2			6.2	
KPPD-E	5.2	6.0	86.7	10.2	9.0	113.3

Note B is given in the appendix.

Table XII (cont.)

AVERAGES OF MILL QUALITY DATA FOR NOV-DEC 1994 Extensible 50 #

Code	Adjusted MD Tear			Adjusted Total Tear		
	g/sheet			g/sheet		
	Cur	Cum	Ind	Cur	Cum	Ind
	Avg	Avg	*B	Avg	Avg	*B
A8	118.0	124.7	96.7	266.1	279.4	98.2
I3		131.6			280.4	
V1	109.0	112.9	89.3	251.0	256.1	92.7
X2	121.9	118.0	99.9	252.3	276.0	93.1
Z6	124.5	128.9	102.0	268.0	271.1	98.9
KPPD-E	117.8	122.0	96.6	259.4	270.9	95.8

Note B is given in the appendix.

Table XII (cont.)

AVERAGES OF MILL QUALITY DATA FOR NOV-DEC 1994 Extensible 50 #

Code	MD Stretch Percent			CD Stretch Percent		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	6.0	6.1	89.6	4.9	5.2	94.2
I3		5.4			5.0	
V1	6.2	6.4	92.5	6.2	6.2	119.2
X2	5.8	6.1	86.6	4.7	5.0	90.4
Z6	7.8	8.2	116.4	4.9	4.6	94.2
KPPD-E	6.6	6.7	98.5	5.3	5.2	101.9

Note B is given in the appendix.

Table XII (cont.)

AVERAGES OF MILL QUALITY DATA FOR NOV-DEC 1994 Extensible 50 #

Code	CD TEA			Total TEA		
	ft lb/sq ft			ft lb/sq ft		
	Cur	Cum	Ind	Cur	Cum	Ind
	Avg	Avg	*B	Avg	Avg	*B
A8	7.2	7.5	94.7	19.3	19.6	91.9
I3		7.7			18.9	
V1	8.7	8.9	114.5	23.9	24.4	113.8
X2	8.5	7.7	111.8	19.7	21.3	93.8
Z6	6.4	6.4	84.2	19.1	19.4	91.0
KPPD-E	7.6	7.6	100.0	20.8	21.0	99.0

Note B is given in the appendix.

Table XIII

AVERAGES OF MILL QUALITY DATA FOR JUL-AUG 1994 Extensible 60 #

Code	Moist @ reel Percent			Adjusted Basis Weight *A Lbs/M Sq Ft			Porosity s/100 cc		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	5.1	4.4	104.1	62.6	62.2	100.5	12.0	15.9	97.6
I3		5.0			61.3			10.4	
V1	4.1	4.0	83.7	63.4	63.6	101.8	17.0	15.3	138.2
X2	6.4	6.6	130.6	63.1	63.2	101.3	18.0	14.1	146.3
Z6	4.8	4.7	98.0	60.7	60.4	97.4	3.0	3.9	24.4
KPPD-E	5.1	4.9	104.1	62.2	62.3	99.8	10.8	12.3	87.8

Notes A and B are given in the appendix.

Table XIII (cont.)

AVERAGES OF MILL QUALITY DATA FOR JUL-AUG 1994

Extensible

60 #

Code	Thickness mils			Apparent Density lbs/pt		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	6.4	6.3	90.1	9.9	9.9	108.8
V1	6.0	6.0	84.5	10.6	10.6	116.5
X2	6.1	6.4	85.9	10.4	9.9	114.3
Z6	9.8	9.7	138.0	6.2	6.2	68.1
KPPD-E	7.4	7.1	104.2	8.8	9.1	96.7

Note B is given in the appendix.

Table XIII (cont.)

AVERAGES OF MILL QUALITY DATA FOR JUL-AUG 1994 Extensible 60 #

Code	Adjusted MD Tear			Adjusted Total Tear		
	g/sheet			g/sheet		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	157.4	163.9	106.1	347.2	360.2	103.9
I3		149.0			315.5	
V1	141.0	142.3	95.0	311.0	320.2	93.1
X2	138.9	137.8	93.6	327.5	338.2	98.0
Z6	149.5	148.1	100.7	324.5	316.9	97.1
KPPD-E	148.9	148.4	100.3	330.3	334.1	98.9

Note B is given in the appendix.

Table XIII (cont.)

AVERAGES OF MILL QUALITY DATA FOR JUL-AUG 1994

Extensible

60 #

Code	MD Stretch Percent			CD Stretch Percent		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	6.1	6.4	88.4	4.4	4.6	89.8
I3		5.5			4.0	
V1	6.6	6.7	95.7	5.4	5.6	110.2
X2	6.3	6.1	91.3	4.7	4.9	95.9
Z6	9.0	8.5	130.4	4.6	4.5	93.9
KPPD-E	7.2	6.9	104.3	4.7	4.9	95.9

Note B is given in the appendix.

Table XIII (cont.)

AVERAGES OF MILL QUALITY DATA FOR JUL-AUG 1994 Extensible 60 #

Code	CD TEA			Total TEA		
	ft lb/sq ft	ft lb/sq ft	Ind	ft lb/sq ft	ft lb/sq ft	Ind
	Cur	Cum	Ind	Cur	Cum	Ind
	Avg	Avg	*B	Avg	Avg	*B
A8	7.6	7.9	89.4	21.3	22.6	85.9
I3		8.0			22.4	
V1	9.2	9.9	108.2	26.4	28.1	106.5
X2	9.6	8.7	112.9	27.1	25.7	109.3
Z6	7.3	7.5	85.9	24.8	23.5	100.0
KPPD-E	8.1	8.5	95.3	24.3	24.8	98.0

Note B is given in the appendix.

Table XIV

AVERAGES OF MILL QUALITY DATA FOR SEP-OCT 1994 Extensible 60 #

Code	Moist @ reel Percent			Adjusted Basis Weight *A Lbs/M Sq Ft			Porosity s/100 cc		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	4.8	4.5	98.0	62.5	62.3	100.2	16.6	15.7	131.7
I3		5.0			61.3			10.4	
V1	4.1	4.1	83.7	63.9	63.5	102.4	15.5	15.4	123.0
X2	5.9	6.5	120.4	62.4	63.2	100.0	17.0	14.9	134.9
Z6	5.1	4.7	104.1	59.9	60.4	96.0	4.0	3.9	31.7
KPPD-E	4.8	4.9	98.0	62.5	62.4	100.2	14.2	12.6	112.7

Notes A and B are given in the appendix.

Table XIV (cont.)

AVERAGES OF MILL QUALITY DATA FOR SEP-OCT 1994 Extensible 60 #

Code	Thickness mils			Apparent Density lbs/pt		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	6.4	6.3	91.4	9.9	9.9	106.5
V1	6.0	6.0	85.7	10.7	10.6	115.1
X2	6.4	6.4	91.4	9.8	9.9	105.4
Z6		9.7			6.2	
KPPD-E	6.2	7.0	88.6	10.2	9.3	109.7

Note B is given in the appendix.

Table XIV (cont.)

AVERAGES OF MILL QUALITY DATA FOR SEP-OCT 1994 Extensible 60 #

Code	Adjusted MD Tear			Adjusted Total Tear		
	g/sheet			g/sheet		
	Cur	Cum	Ind	Cur	Cum	Ind
	Avg	Avg	*B	Avg	Avg	*B
A8	152.5	159.7	103.5	335.1	353.7	100.9
I3		149.0			315.5	
V1	136.5	139.2	92.6	315.0	314.9	94.9
X2	147.3	139.1	99.9	342.4	338.7	103.1
Z6	149.0	149.8	101.1	329.0	319.6	99.1
KPPD-E	145.7	147.4	98.8	328.6	332.0	99.0

Note B is given in the appendix.

Table XIV (cont.)

AVERAGES OF MILL QUALITY DATA FOR SEP-OCT 1994 Extensible 60 #

Code	MD Stretch Percent			CD Stretch Percent		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	6.1	6.3	89.7	5.5	4.8	112.2
I3		5.5			4.0	
V1	6.3	6.6	92.6	5.8	5.6	118.4
X2	6.4	6.2	94.1	4.1	4.7	83.7
Z6	8.8	8.6	129.4	5.0	4.5	102.0
KPPD-E	6.6	6.8	97.1	5.3	4.9	108.2

Note B is given in the appendix.

Table XIV (cont.)

AVERAGES OF MILL QUALITY DATA FOR SEP-OCT 1994 Extensible 60 #

Code	CD TEA			Total TEA		
	ft	lb/sq	ft	ft	lb/sq	ft
	Cur	Cum	Ind	Cur	Cum	Ind
	Avg	Avg	*B	Avg	Avg	*B
A8	8.5	7.9	101.2	22.0	22.6	88.4
I3		8.0			22.4	
V1	9.9	10.0	117.9	27.5	27.9	110.4
X2	7.4	8.3	88.1	24.7	25.4	99.2
Z6	7.5	7.5	89.3	25.4	24.1	102.0
KPPD-E	8.6	8.4	102.4	24.9	24.9	100.0

Note B is given in the appendix.

Table XV

AVERAGES OF MILL QUALITY DATA FOR NOV-DEC 1994 Extensible 60 #

Code	Moist @ reel Percent			Adjusted Basis Weight *A Lbs/M Sq Ft			Porosity s/100 cc		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	4.9	4.6	100.0	61.9	62.2	99.4	15.9	15.3	128.2
V1	4.2	4.1	85.7	63.2	63.5	101.4	16.5	15.9	133.1
X2	6.1	6.4	124.5	62.3	63.2	100.0	17.6	15.9	141.9
Z6	4.5	4.6	91.8	60.7	60.4	97.4	3.5	3.4	28.2
KPPD-E	4.7	4.9	95.9	62.0	62.3	99.5	12.3	12.4	99.2

Notes A and B are given in the appendix.

Table XV (cont.)

AVERAGES OF MILL QUALITY DATA FOR NOV-DEC 1994 Extensible 60 #

Code	Thickness mils			Apparent Density lbs/pt		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	6.2	6.3	89.9	10.0	9.9	106.4
V1	6.0	6.0	87.0	10.6	10.6	112.8
X2	6.3	6.4	91.3	9.9	9.9	105.3
Z6		9.7			6.2	
KPPD-E	6.1	6.9	88.4	10.3	9.4	109.6

Note B is given in the appendix.

Table XV (cont.)

AVERAGES OF MILL QUALITY DATA FOR NOV-DEC 1994 Extensible 60 #

Code	Adjusted MD Tear			Adjusted Total Tear		
	g/sheet			g/sheet		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	145.5	157.8	99.5	327.8	354.8	99.3
V1	134.5	137.1	92.0	305.5	311.1	92.5
X2	145.2	138.1	99.3	303.2	336.4	91.9
Z6	145.5	150.0	99.5	312.5	319.3	94.7
KPPD-E	141.8	146.2	97.0	311.2	330.1	94.3

Note B is given in the appendix.

Table XV (cont.)

AVERAGES OF MILL QUALITY DATA FOR NOV-DEC 1994 Extensible 60 #

Code	MD Stretch Percent			CD Stretch Percent		
	Cur Avg	Cum Avg	Ind *B	Cur Avg	Cum Avg	Ind *B
A8	6.2	6.2	89.9	4.8	4.8	98.0
V1	6.1	6.5	88.4	4.8	5.5	98.0
X2	6.3	6.2	91.3	4.1	4.6	83.7
Z6	8.4	8.6	121.7	4.6	4.5	93.9
KPPD-E	6.9	6.9	100.0	4.6	4.9	93.9

Note B is given in the appendix.

Table XV (cont.)

AVERAGES OF MILL QUALITY DATA FOR NOV-DEC 1994 Extensible 60 #

Code	CD TEA			Total TEA		
	ft lb/sq ft		Ind	ft lb/sq ft		Ind
	Cur	Cum		Cur	Cum	
	Avg	Avg	*B	Avg	Avg	*B
A8	8.1	7.9	96.4	22.8	22.4	91.9
V1	8.6	9.6	102.4	26.0	27.6	104.8
X2	9.2	8.5	109.5	23.2	25.4	93.5
Z6	7.7	7.5	91.7	23.5	23.9	94.8
KPPD-E	8.3	8.4	98.8	24.2	24.8	97.6

Note B is given in the appendix.

Table XVI
Data on Conditioning and Testing Environments

Mill Code	Preconditioned	Conditioning Before Testing		
		Temp. (Deg. C)	RH (%)	Time (min.)
A8	No	22	50	10
B3	No	21	50	20
B4	No	22	50	7
C4	No	22	50	15
D7	No	22	50	15
E0	No	22	50	10
F2	Yes			
G1	No	22	50	5
I3	No	22	50	1440
K2	No	22	50	0
P7	No	22	50	10
S9	No	22	50	15
T8	No	21	50	20
V1	No	22	50	30
W5	No	22	50	10
X2	No	21	50	20
Y0	No	22	50	5
Z6	No	22	50	10

Table XVII
Data on Tear and Tensile Testing Variables

Flat Grades Only

Mill Code	Tear Old	Tester New	Tensile Method		Tensile Test Variables		
			T404	T494	Length (in.)	Width (in.)	Speed (in./min.)
A8		x		x	7.1	1	2.0
B3		x		x	7.1	1	1.0
B4		x		x	6.0	1	2.0
C4		x		x	8.0	1	2.0
D7		x		x	7.0	1	4.0
E0	x			x	7.1	1	1.0
F2		x		x	7.1	1	1.0
G1		x		x	6.0	1	2.0
I3		x		x	6.7	1	1.0
K2		x		x	7.1	1	0.4
P7		x		x	7.1	1	2.0
S9		x		x	8.0	1	2.0
T8		x		x	7.1	1	1.0
V1	x			x	7.1	1	2.0
W5	x			x	7.1	1	1.0
X2		x		x	7.1	1	1.0
Y0		x		x	6.0	1	2.0

Table XVII (cont.)

Extensible Grades Only

Mill Code	Tear Tester		Tensile Method		Tensile Test Variables		
	Old	New	T404	T494	Length (in.)	Width (in.)	Speed (in./min.)
A8		x		x	7.1	1	2.0
V1	x			x	7.1	1	2.0
X2		x		x	5.7	1	2.3
Z6	x			x	5.2	1	1.0

APPENDIX

NOTES A AND B USED IN TABULATIONS OF MILL DATA

Notes A, used in the tables of mill data, defines the procedure for calculating adjusted basis weight. The adjusted basis weight is that corresponding to a moisture content of 7.25%, calculated as follows:

$$ABW = RBW [(100 - RMC) / (100 - 7.25)]$$

where: ABW = adjusted basis weight, RBW = reported basis weight, and RMC = reported moisture content.

Note B, used in the tables of mill data, defines the procedures for calculating either machine index or KPPD index. These indexes are the ratio of either the machine or KPPD current average to the KPPD cumulative average, calculated as follows:

$$MI = 100 (CMA/CUM KPPDA)$$

$$KPPDI = 100 (CKPPDA/CUM KPPDA)$$

where: MI = Machine Index, KPPDI = KPPD index.

CMA = current machine average for a specific physical property of a specific multiwall bag paper grade obtained during the current period on a specific machine,

CKPPDA = current average of all machine averages for a specific physical property of a specific multiwall bag paper grade obtained during the current period,

CUM KPPDA = the average CKPPD for the previous twelve months, including the current month.

and: CUM MA = the average CMA for the previous twelve months, including the current month.

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